

Tagung der HRK

Der Europäische Forschungsrat (ERC): Quo vadis?

Die Zukunft des ERC aus der Sicht des Wissenschaftlichen Rates des ERC

Hans-Joachim Freund

ERC Scientific Council
October 2011



Portraits of selected ERC 2007 Starting Grantees

European Research Council





Structure & Content of the Presentation

1. What is the ERC?
2. Applicants and evaluation
3. New instruments
4. Internationalisation
5. Gender
6. Conclusions





1.

What is the ERC?





What is the ERC?

ERC is a new type of funding body in Europe to support excellence in frontier research, a bottom-up, individual-team, pan-European competition

Legislation

- Scientific Council with 22 members
- Support by the ERC Executive Agency
- Significant budget (1.2 billion €/year)
- Excellence as the only valid criterion

Strategy

- Support for the individual scientist – no networks!
- International 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 Scientific Council

- **22 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 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





The ERC Scientific Council Members

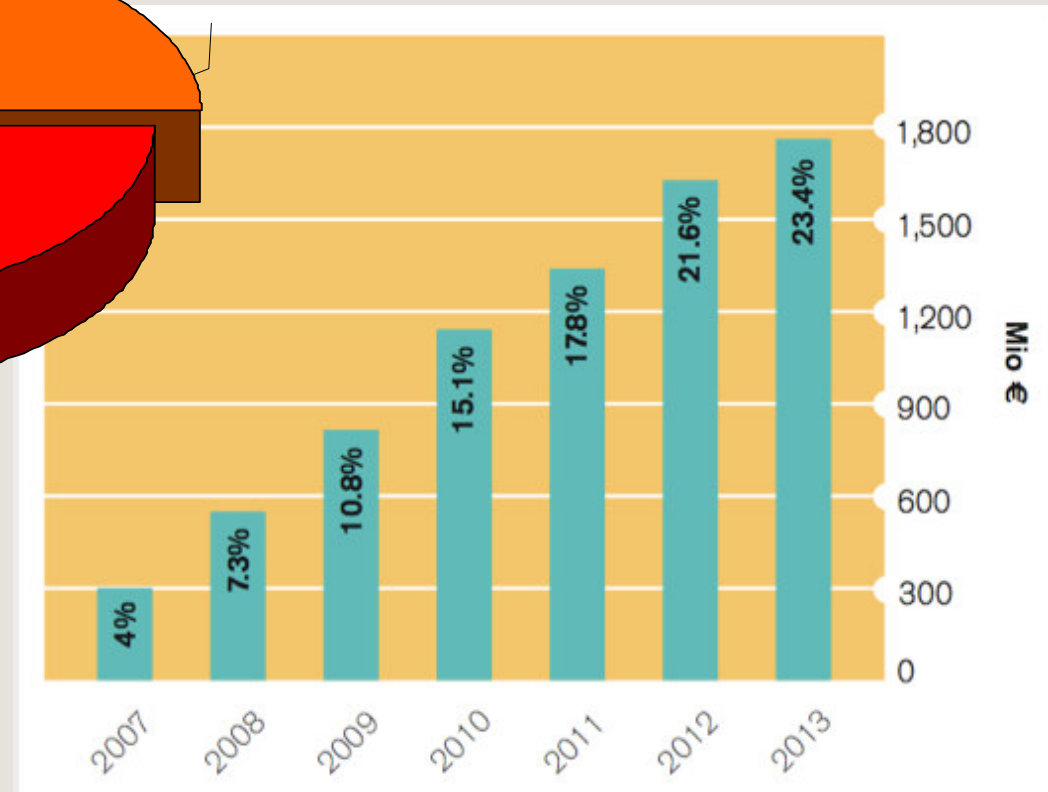
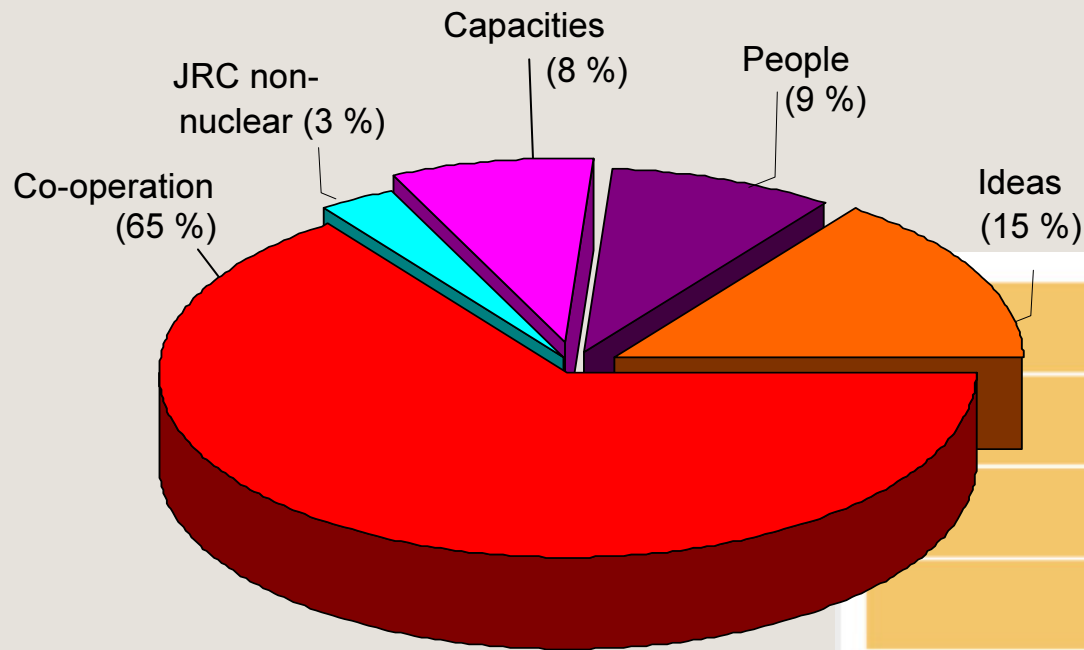
(by country of affiliation)

- Prof. Claudio BORDIGNON (IT – Medicine)
- Prof. Nicholas CANNY, (IE – History)
- Prof. Sierd A.P.L. CLOETINGH (NL – Earth Sciences)
- Prof. Mathias DEWATRIPONT (BE – Economics)
- Prof. Tomasz DIETL (PL – Physics)
- Prof. Daniel DOLEV (IL – Computer Sciences)
- Prof. Carlos M. DUARTE (ES – Biology)
- Prof. Daniel ESTEVE (FR – Physics)
- Prof. Pavel EXNER (CZ – Applied Mathematics & Mathematical Physics), **ERC Vice President**
- Prof. Hans-Joachim FREUND (DE- Physics & Physical Chemistry)
- Prof. Carl-Henrik HELDIN (SE – Molecular Cell Biology), **ERC Vice President**
- Prof. Timothy HUNT (UK - Biology)
- Prof. Norbert KROO (HU – Physics)
- Prof. Maria Teresa LAGO (PT – Astrophysics)
- Prof. Henrietta L. MOORE (UK – Social Anthropology)
- Prof. Helga NOWOTNY (AT – Social Studies of Science), **ERC President**
- Prof. Christiane NÜSSLEIN-VOLHARD (DE – Genetics)
- Prof. Alain PEYRAUBE (FR – Linguistics)
- Dr. Jens ROSTRUP-NIELSEN (DK – Chemistry)
- Prof. Mart SAARMA (FI – Biology)
- Prof. Anna TRAMONTANO (IT- Biochemistry)
- Prof. Isabelle VERNOS (ES – Molecular Biology)

Secretary General:
Prof. Donald Dingwell
(Since Sept. 2011)

FP7 budget € 50.5 billion

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





ERC Granting schemes

- Individual teams in Europe
- Nationality, age, current place of work not relevant
- Host organisation to be located in EU Member State (MS) or Associated Country (AC)
- Host institution may be public or private
- PI, team members, external team members



ERC Granting schemes

European Research Council

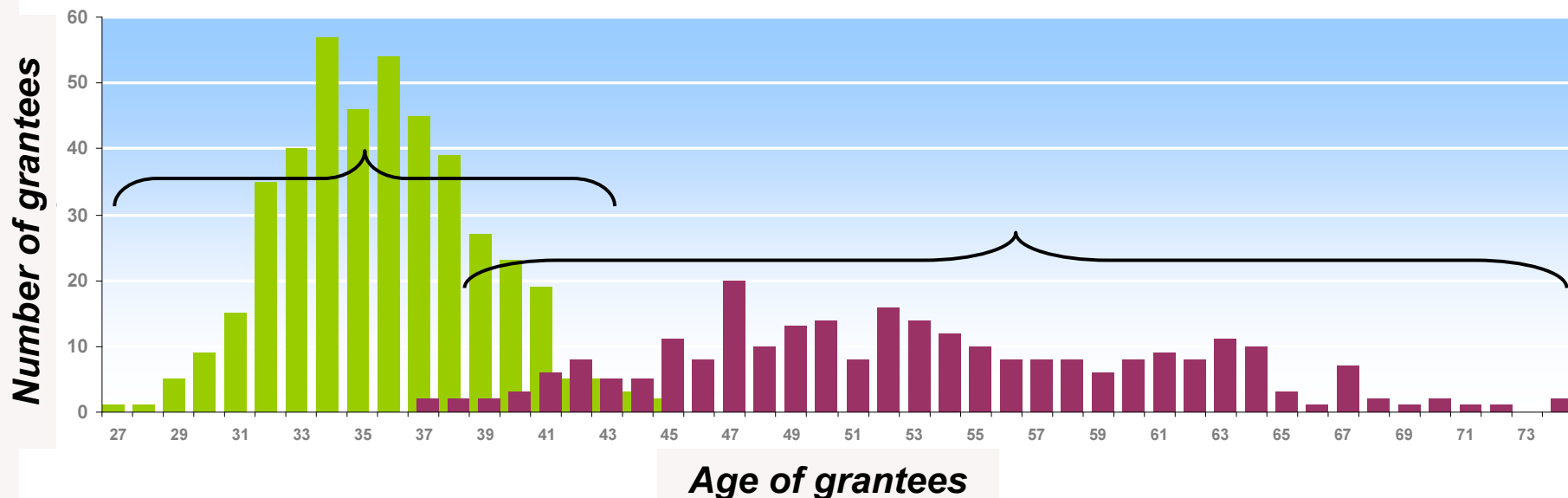


Starting Grants

- Attract/retain **next-generation leaders**
- Address **funding gap** early in independent career
- Establish independent **research team & program**
- up to € 2.0 Mio for 5 years

Advanced Grants

- Attract/retain **current world-leaders**
- Stimulate investigator-driven, **breakthrough research**
- up to € 3.5 Mio for 5 years





What has the ERC achieved so far?

- 8 calls launched since 2007;
- about 36.500 applications (35.000 evaluated proposals)
- over 20.000 proposals
- 3,1 billion total committed funding
- approx. 2250 ERC grantees, (each grantee employing 4-5 Ph.D. and post-docs)
- too early to assess scientific results, but:
 - 2010 Nobel Prize in physics to Prof. Novoselov, ERC StG
 - high scientific recognition & reputation
 - frontier research has potential for breakthroughs (‘radical innovation’)

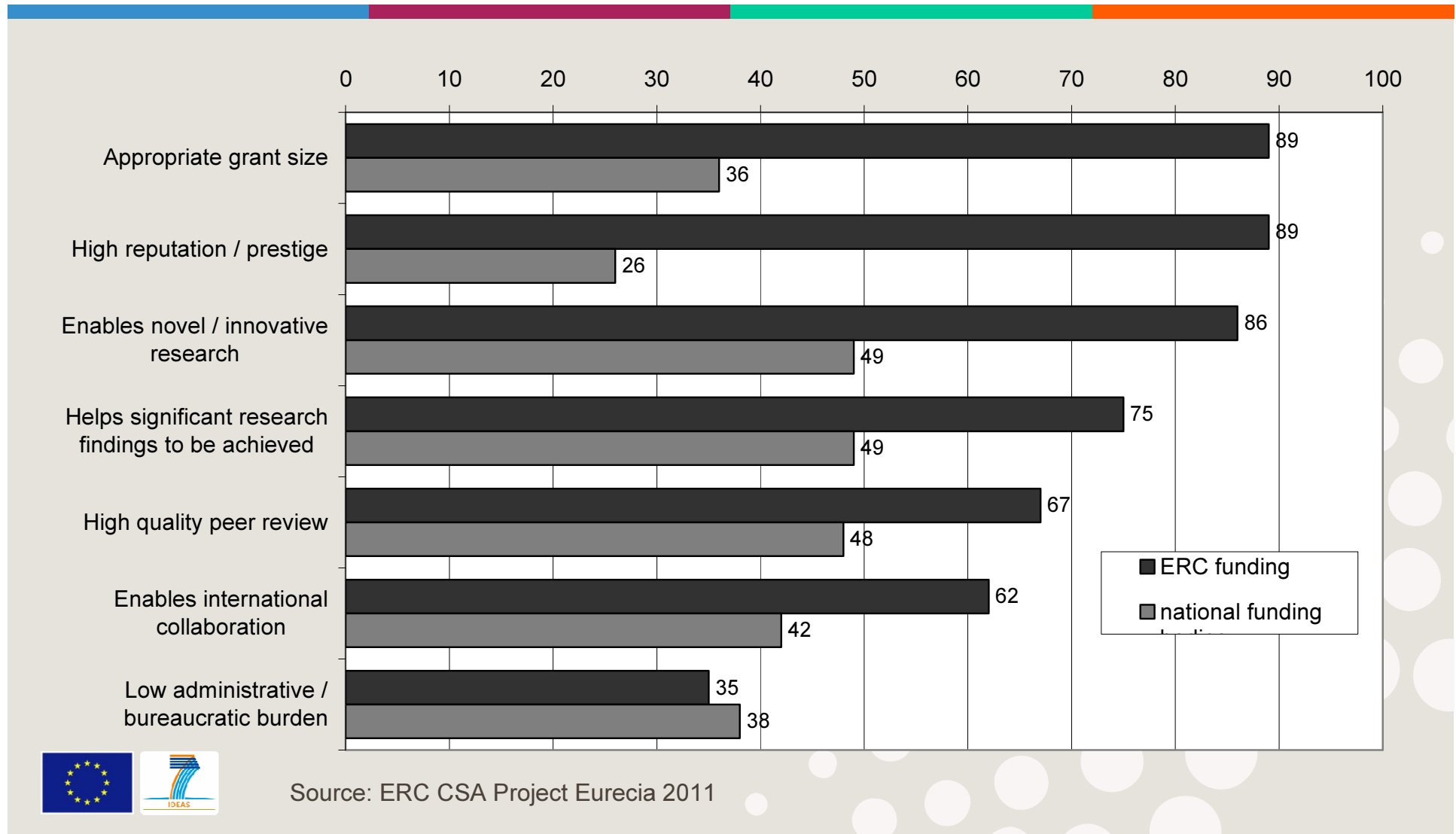


Attractive features of national and ERC funding

Percentage of ERC grantees and applicants



Source: ERC CSA Project EURECIA 2011



Source: ERC CSA Project Eureka 2011



2.

Applicants and evaluation.



The profile of a StG applicant

- Potential for research independence
- Evidence of scientific maturity
- At least one publication without participation of PhD supervisor

Promising track-record of early achievements

- significant publications
- invited presentations in conferences
- funding, patents, awards, prizes

Specific stage of research career at time of application

- starters (2-7 years)
 - consolidators (7-12 years)
- } Streaming – comparable success rates

The profile of a AdG applicant

Active researchers with a track-record of significant research achievements in the last 10 years

- 10 publications as senior author;
- 3 major research monographs (e.g. for SH);

Other **alternative benchmarks** that may be considered as indicative of an exceptional record and recognition are e.g:

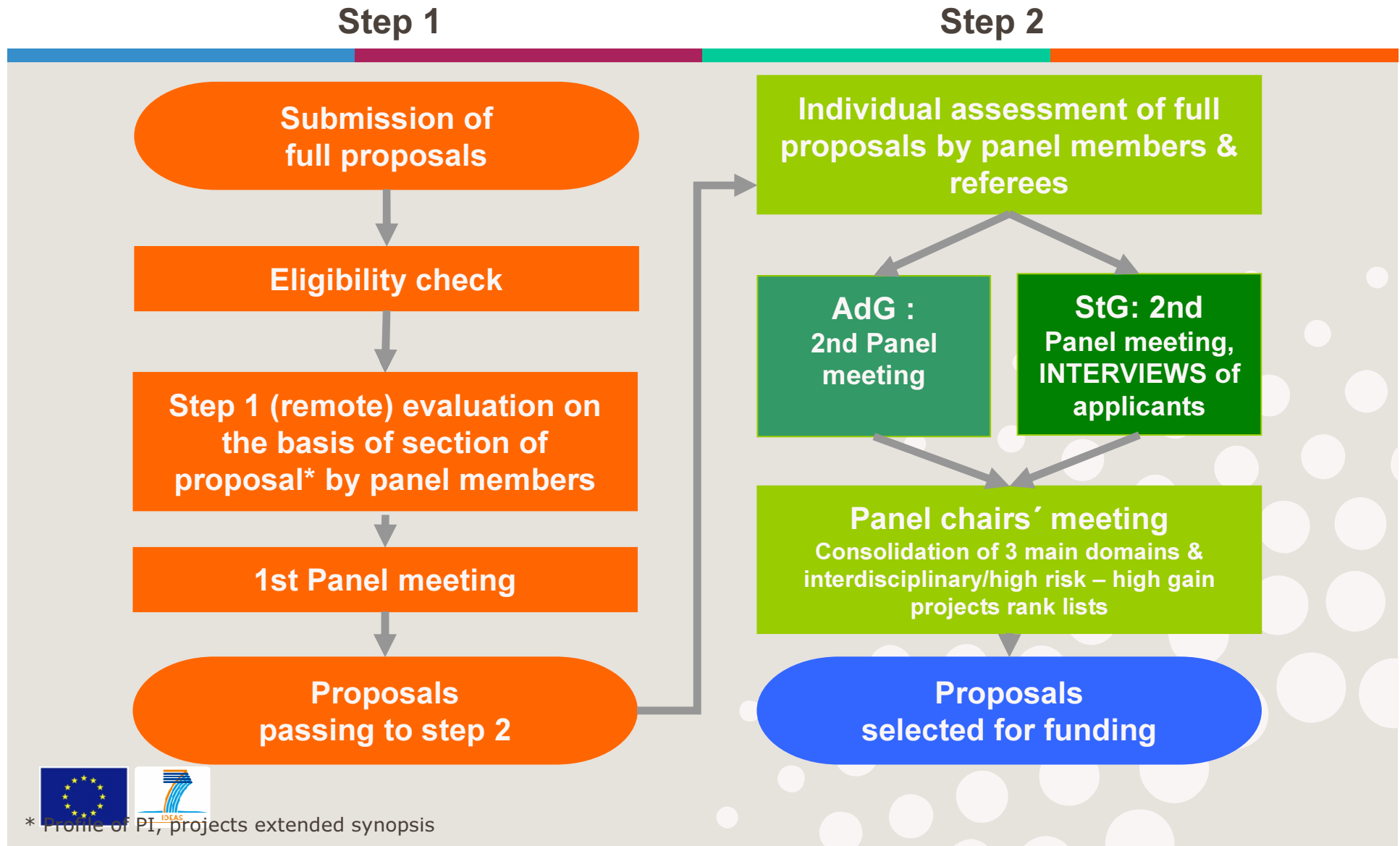
- granted patents, invited presentations;
- member in steering committees of conferences;
- scientific awards or membership in academies;

For **maternity**, the track record considered can be extended by 18 months for each child born **before or during** the last ten years. For **paternity**, the track record considered can also be extended.



How to ensure excellence: Evaluation and selection of ERC Grants

European Research Council



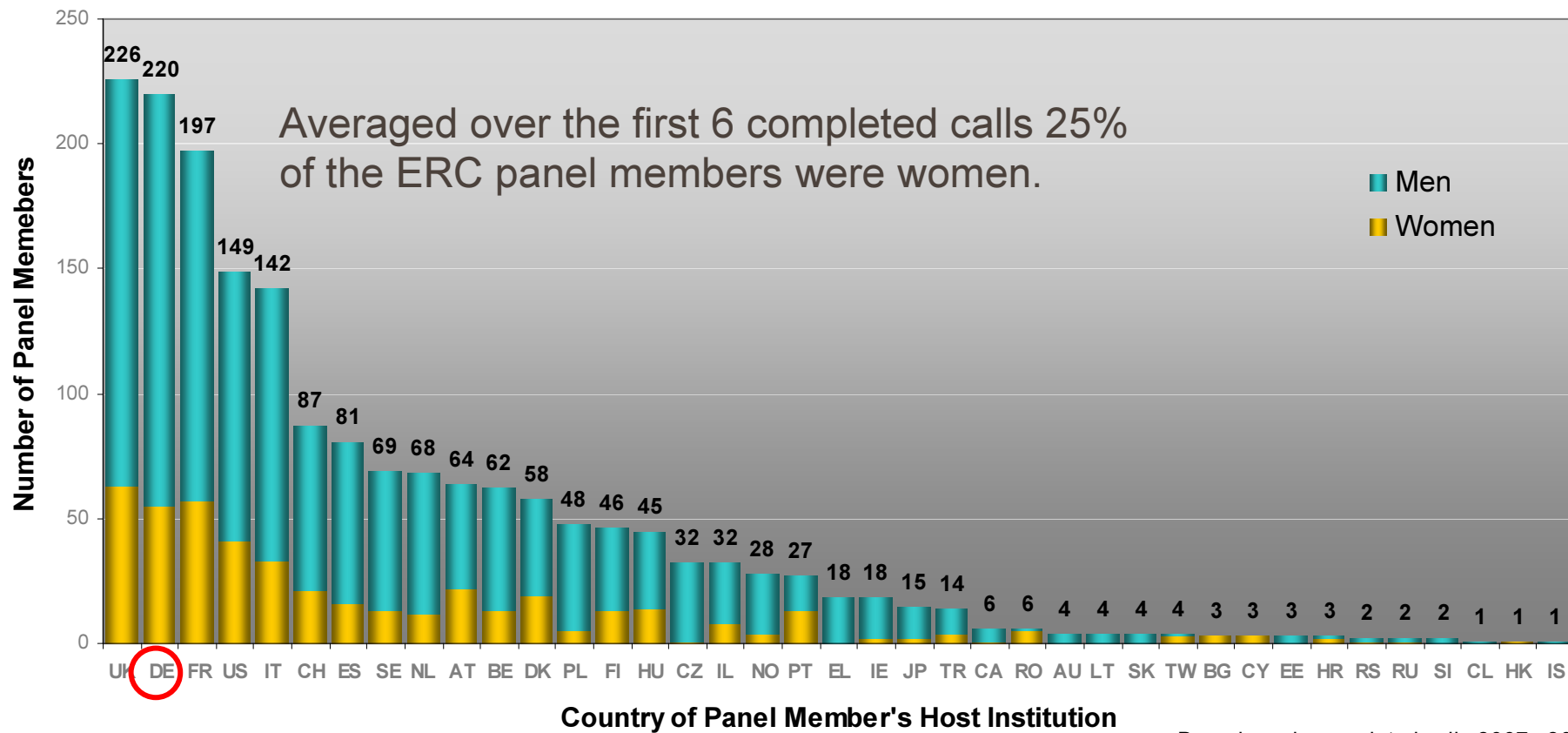
* Profile of PI, projects extended synopsis

ERC panel members by country of HI and gender

European Research Council



ERC Starting and Advanced grant calls 2007 - 2010



Based on six completed calls 2007 - 2010





3.

New instruments



ERC Synergy - pilot for 2012

European Research Council



- Attractive, long-term funding - maximum grant of EUR 15M for a period of up to six years.
- Only 10 to 15 Synergy Grants in 2012 - competition likely to be intense with only exceptional proposals funded.
- First call **25 October 2011** with deadline **25 January 2012**.
- Total funding of first call is EUR 150M (approximately 10% of the 2012 ERC call budget).



ERC Synergy

- strong commitment required

European Research Council



- Small groups of 2 to 4 PIs.
- PIs must be strongly committed to the project and have a genuine collaboration.
- PIs expected to devote at least 30% of their working time on the project and 50% in an EU Member State or Associated Country.
- PIs expected to spend significant periods of 'core time' together, but groups not required to be physically located in the same place throughout the project.



ERC Synergy

- based on core ERC principles

European Research Council



- Evaluation will be on the sole criterion of excellence.
- PIs with excellent track records of independent creative thinking, regardless of their career stage.
- 'Bottom-up' - research priorities and the configuration of the group determined by the individual investigators.
- Evaluation will be based on panels formed ad hoc from 50 selected scientists



New instrument: ERC Proof of concept

European Research Council

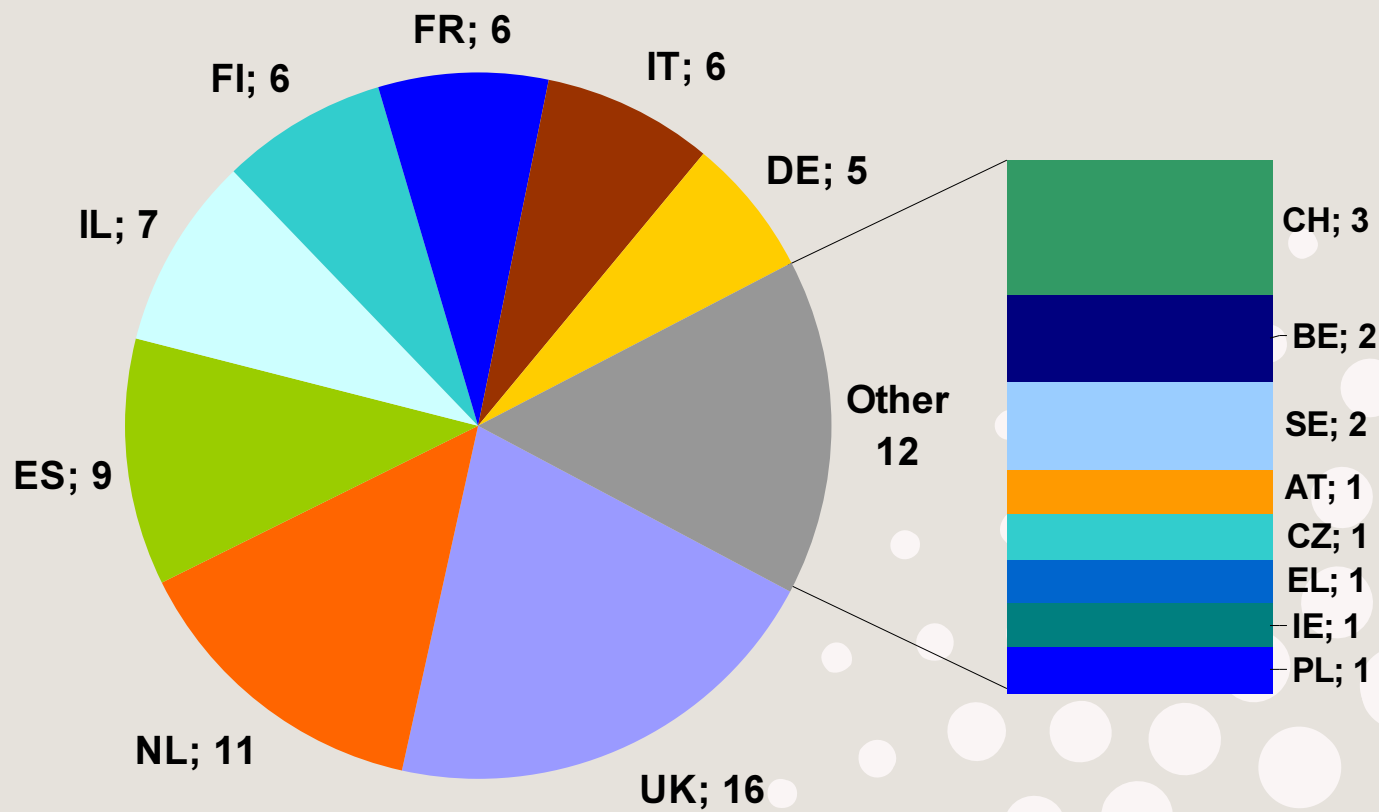


- Eligibility: Holders of an ERC grant with an idea substantially drawn from an ERC-funded project
- Aim: Support to bridge the gap between research and the earliest stage of a marketable innovation
- Size: up to 150.000 Euro per grant
- Outcome: A "package" to be presented to venture capitalists
- Second call in Autumn 2011

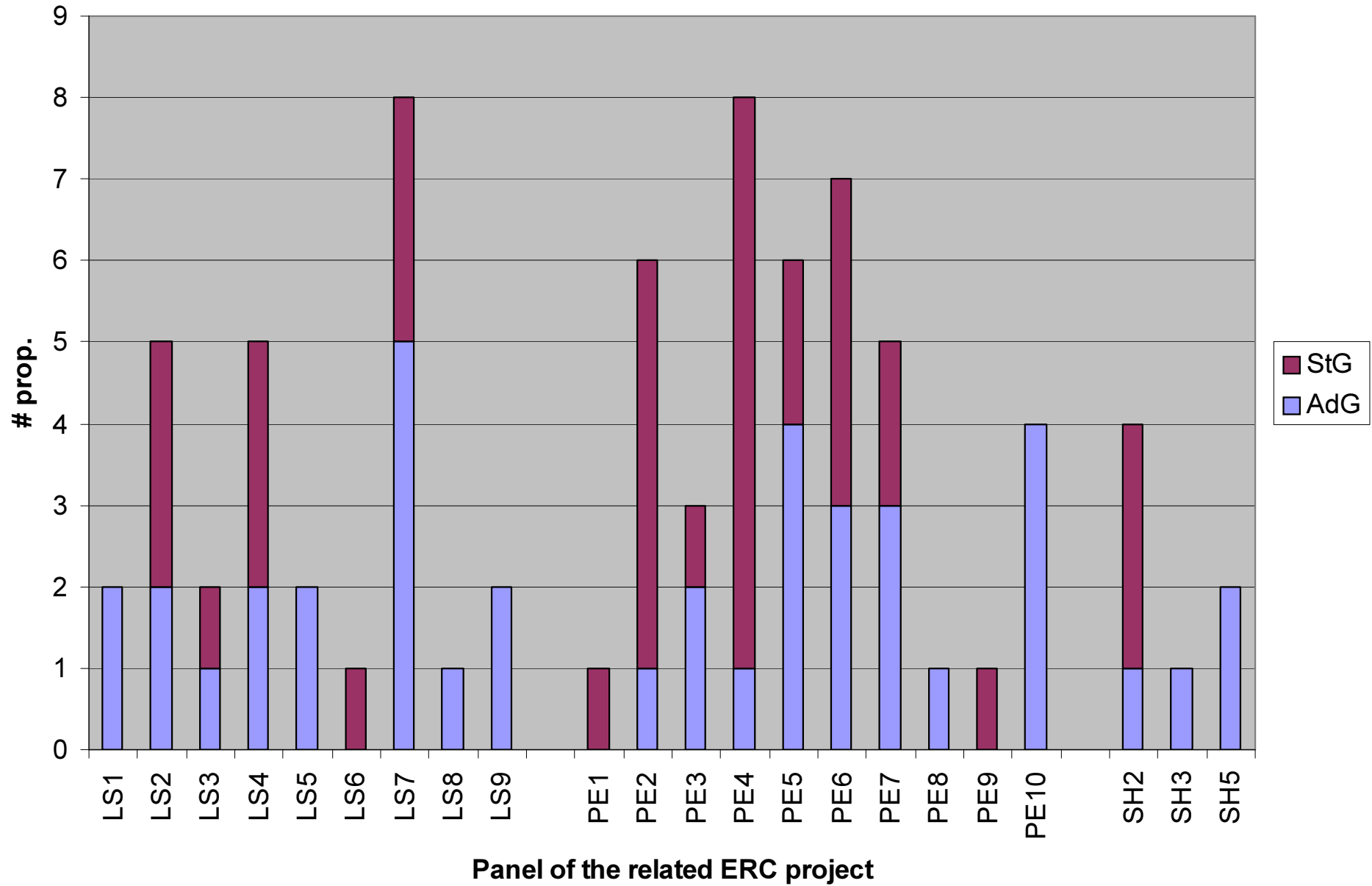


PoC First deadline: 78 proposals submitted

European Research Council



ERC-2011-PoC proposals by panel



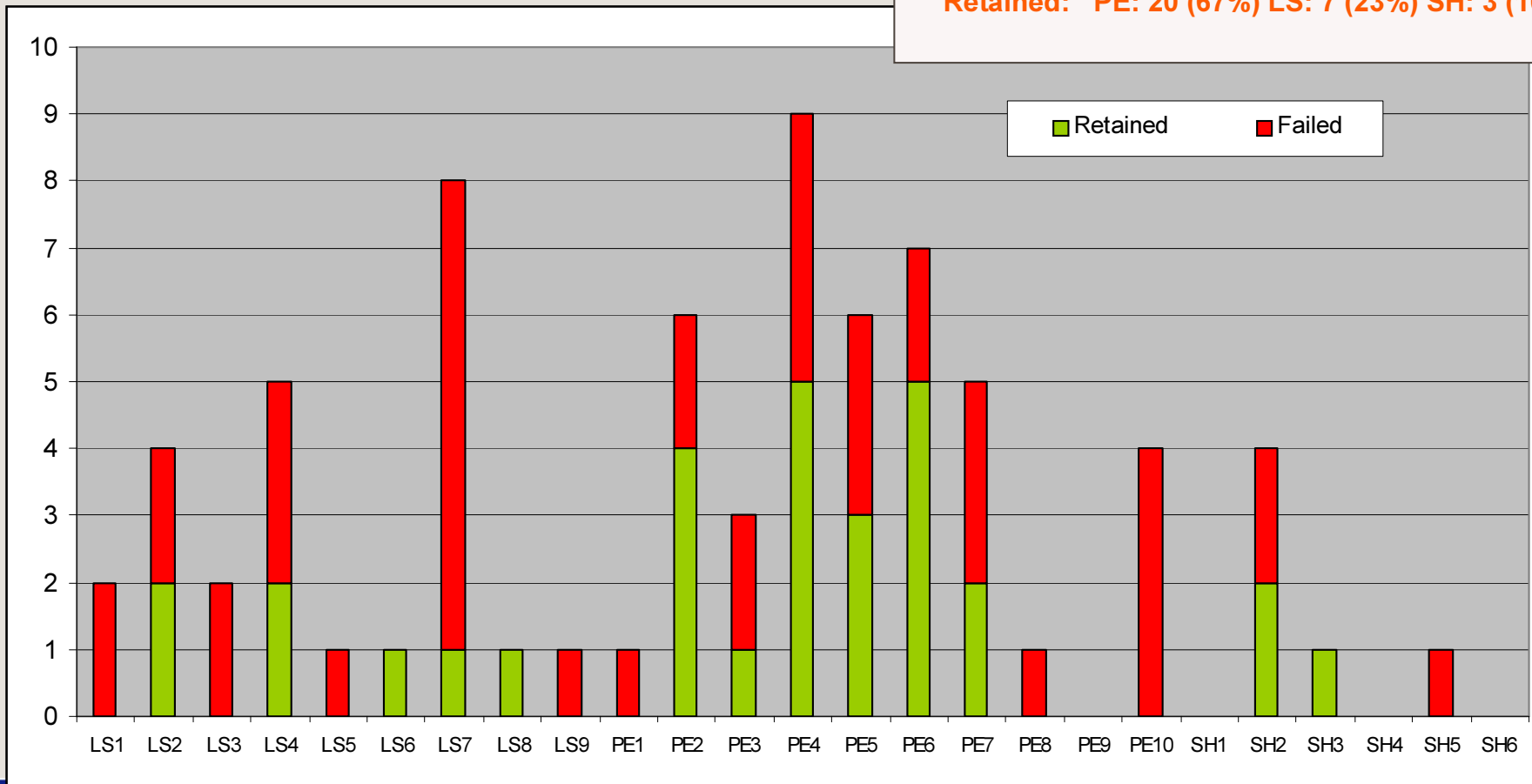
Results:

Distribution per panel

(of the related ERC proposal)



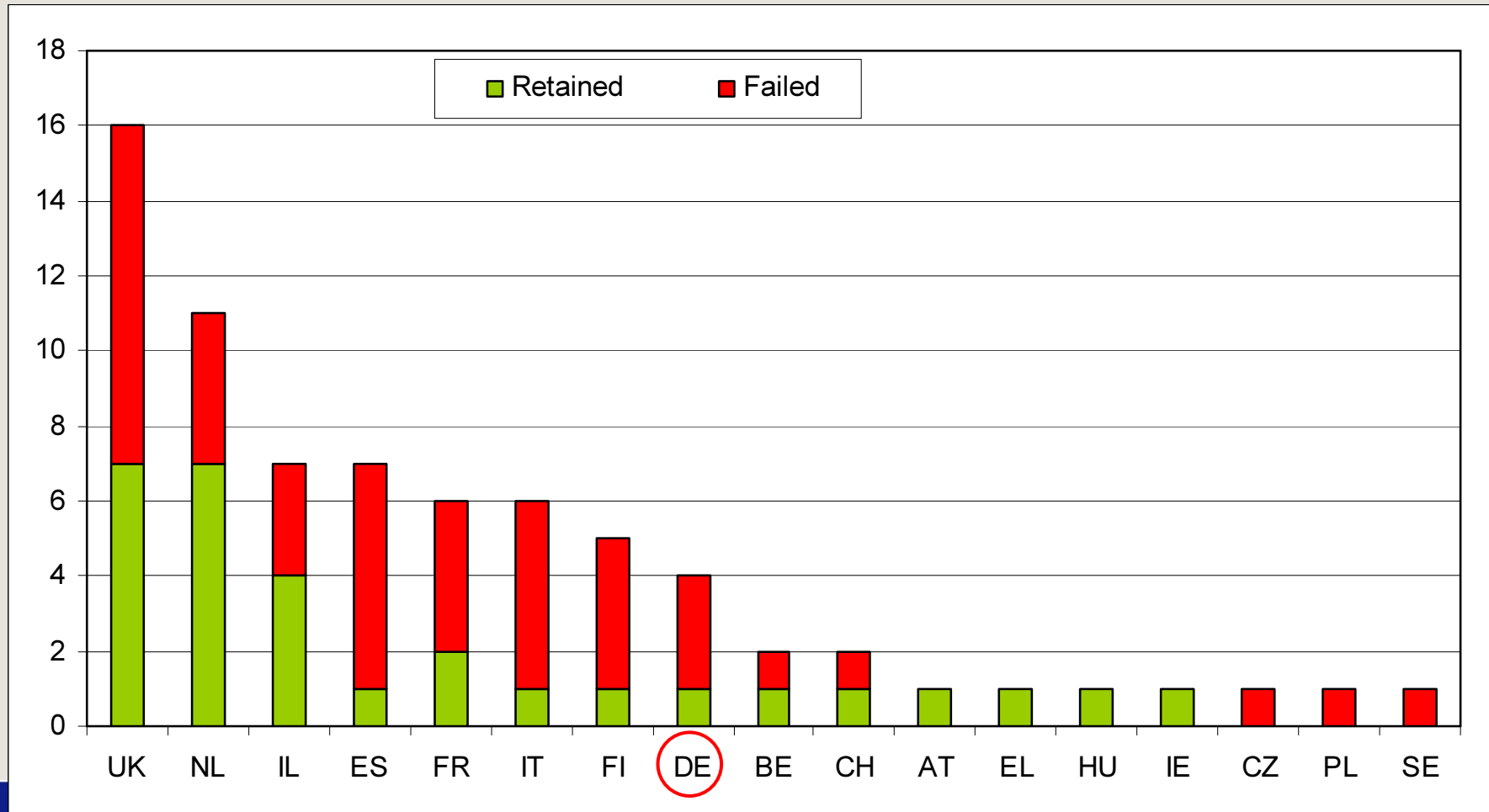
Submitted: PE: 42 (58%) LS: 25 (34%) SH: 6 (8%)
Retained: PE: 20 (67%) LS: 7 (23%) SH: 3 (10%)



Results:

Distribution by country of host institution

European Research Council





4.

Internationalisation



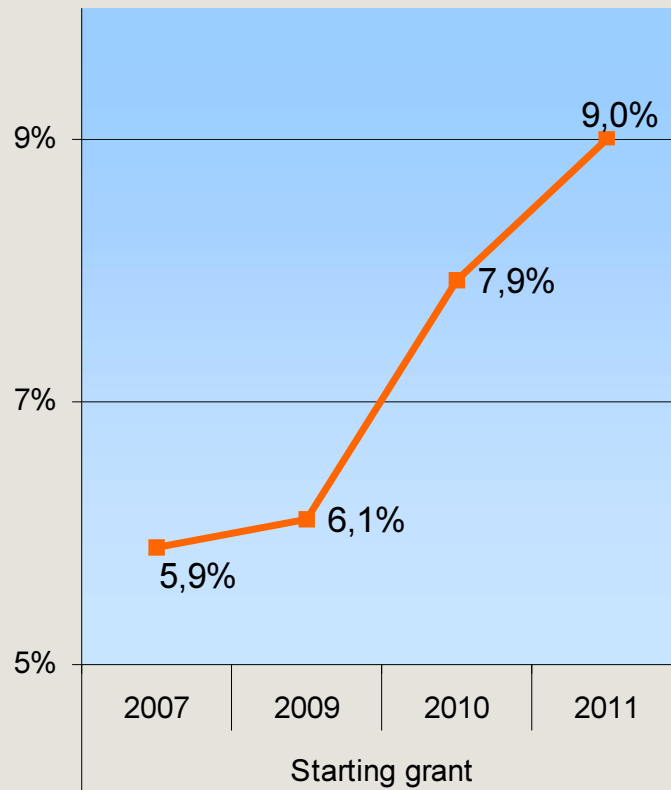
Submissions from researchers with a non-ERA nationality

ERC calls 2007 - 2011

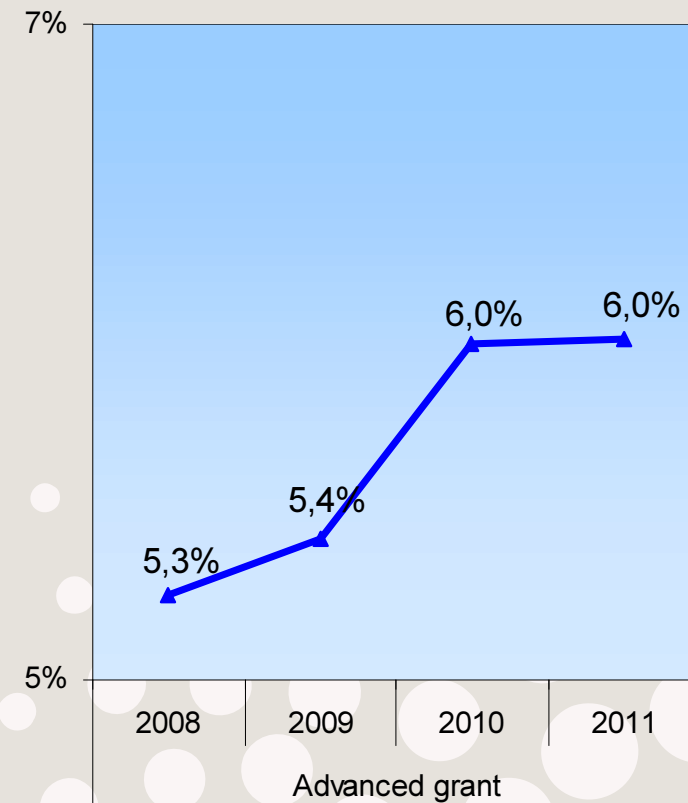
European Research Council



Increasing number of applications from international researchers
But: Limited number of submissions from outside ERA



StG: 1289 applications
(204 with residence outside ERA, 16%)



AdG: 458 applications
(115 with residence outside ERA, 25%)

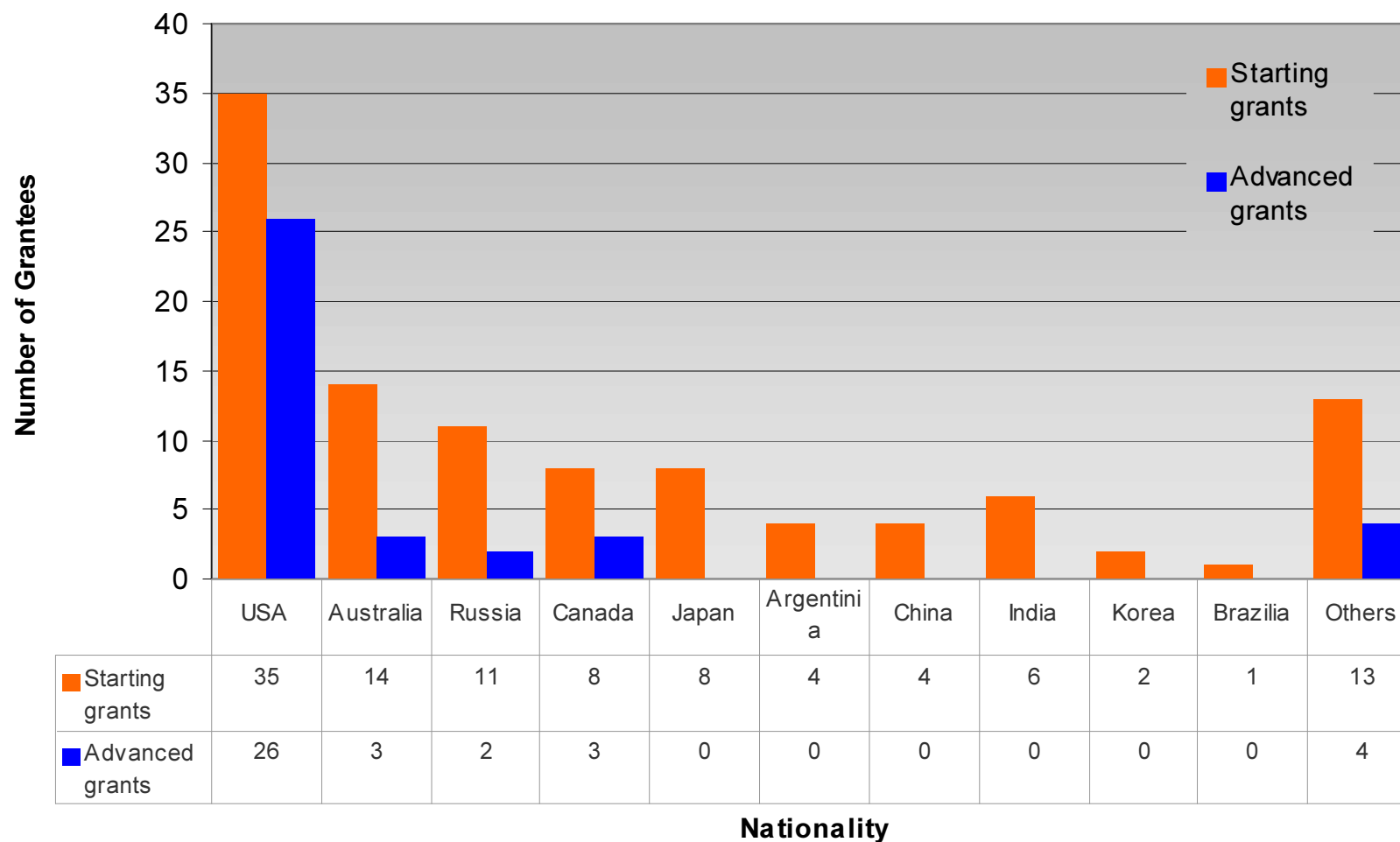
ERC grantees with a non-ERA nationality

ERC Starting and Advanced Calls 2007 – 2011

European Research Council



StG: 106 grantees (11 recruitment from outside ERA, 10.4%)
 AdG: 38 grantees (6 recruitment from outside ERA, 16%)



ERC grantees who moved to Europe

ERC Starting and Advanced Calls 2007 – 2011

European Research Council



Note: Researchers with a residence outside ERA at the time of submission

Country of residence	International grantees	ERA nationals	Total
Argentina	1	0	1
Australia	1	2	3
Brazil	1	0	1
Canada	0	1	1
Japan	1	1	2
Korea	0	1	1
USA	13	49	62
Total	17	54	71

- Few successful applications from outside ERA
- Mainly from researchers with a residence in the US
- ERA researchers returning from the US
- ERC Internationalisation Strategy in preparation





Objectives of the ERC Internationalisation Strategy

- Increase the current number of ERC grantees from outside ERA up to **10% of a specific call**.
- **Encourage Europe-based researchers** with international collaborations to attract high-quality individual scientists to come and start research in Europe in their lab.
- Encourage the recruitment of international research staff working in ERC projects as **team members** in the ERA.
- Increase the share of **panel members** from outside ERA.
- Support potential host institutions in striving for **quality** and adopting **new settings** with emphasis on international scholars (e.g. new career possibilities, welcome centre).
- Support some light mechanisms to facilitate the **matching** between potential applicants from outside ERA and HI's.
- Improve the international **visibility** of the ERC.
- **Evaluate** the ERC internationalisation strategy on a regular basis.





5.

Gender



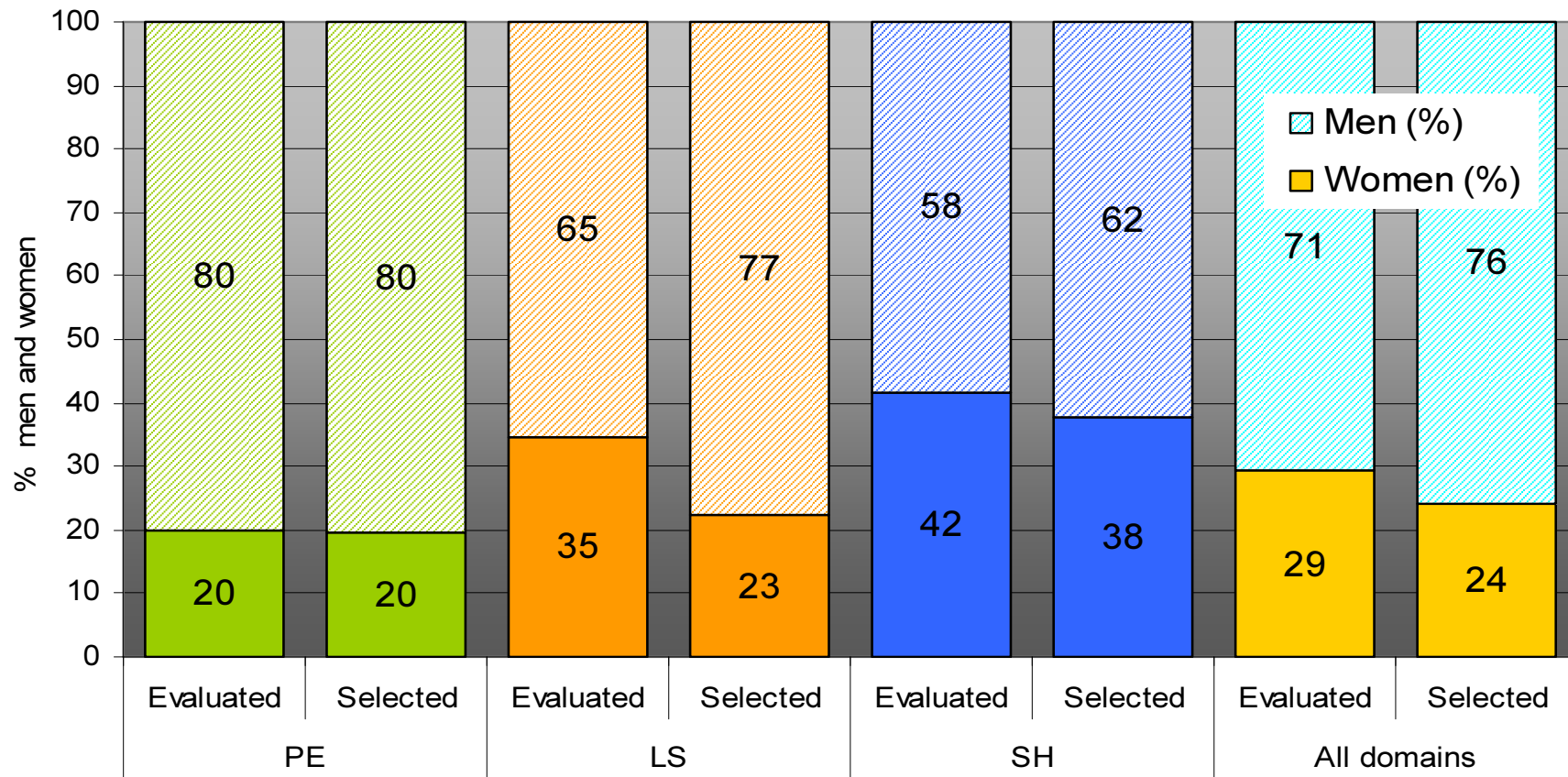
ERC Starting Grants

Every 3rd applicant and every 4th grantee is a woman



ERC Starting grants: Share of men and women applicants* and grantees by domain

Source (evaluated/selected Oct 2011) : StG 2007 (8788/299), StG 2009 (2 392/245), StG 2010 (2767/436), StG 2011 (4005/480)



* Not counting ineligible or withdrawn applications



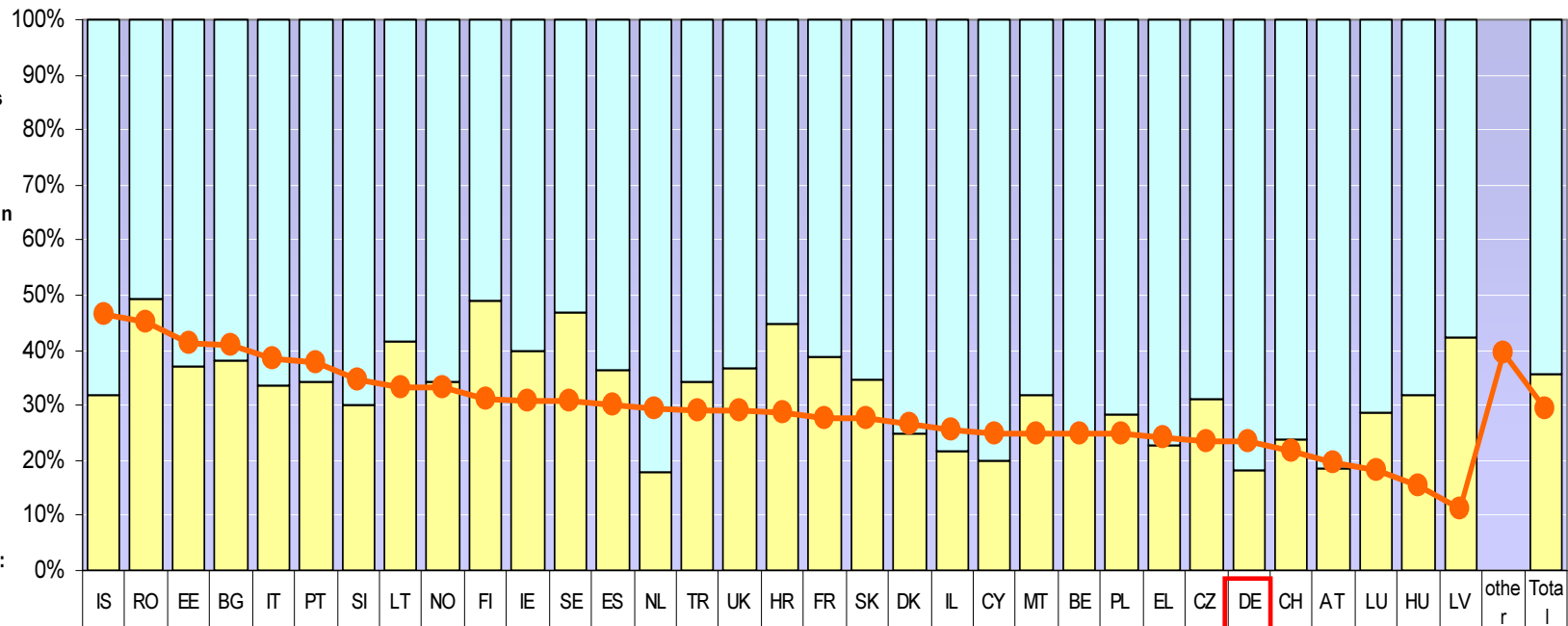
Share women Starting Grant applicants vs. women academic staff in Grade B, by country of host inst

ERC Starting grant calls: Every 3rd applicant and every 4th grantee is a woman

Shares of women StG applicants by country of HI, vs corresponding shares of men and women academic staff in Grade B positions.

ERC source: evaluated proposals StG 2007 (8788), StG 2009 (2392), StG 2010 (2767), StG 2011 (4010)

Grade B source: She Figures 2009 annex 3.1



	IS	RO	EE	BG	IT	PT	SI	LT	NO	FI	IE	SE	ES	NL	TR	UK	HR	FR	SK	DK	IL	CY	MT	BE	PL	EL	CZ	DE	CH	AT	LU	HU	LV	other	Total
Men Grade B (%)	68%	51%	63%	62%	66%	66%	70%	58%	66%	51%	60%	53%	64%	82%	66%	63%	55%	61%	65%	75%	78%	80%	68%	75%	72%	77%	69%	82%	76%	81%	71%	68%	58%		64%
Women Grade B (%)	32%	49%	37%	38%	34%	34%	30%	42%	34%	49%	40%	47%	36%	18%	34%	37%	45%	39%	35%	25%	22%	20%	32%	25%	28%	23%	31%	18%	24%	19%	29%	32%	42%		36%
Women StG (%)	47%	45%	41%	41%	38%	38%	35%	33%	33%	31%	31%	31%	30%	29%	29%	29%	29%	28%	27%	27%	25%	25%	25%	25%	25%	24%	23%	23%	22%	20%	18%	15%	11%	39%	29%

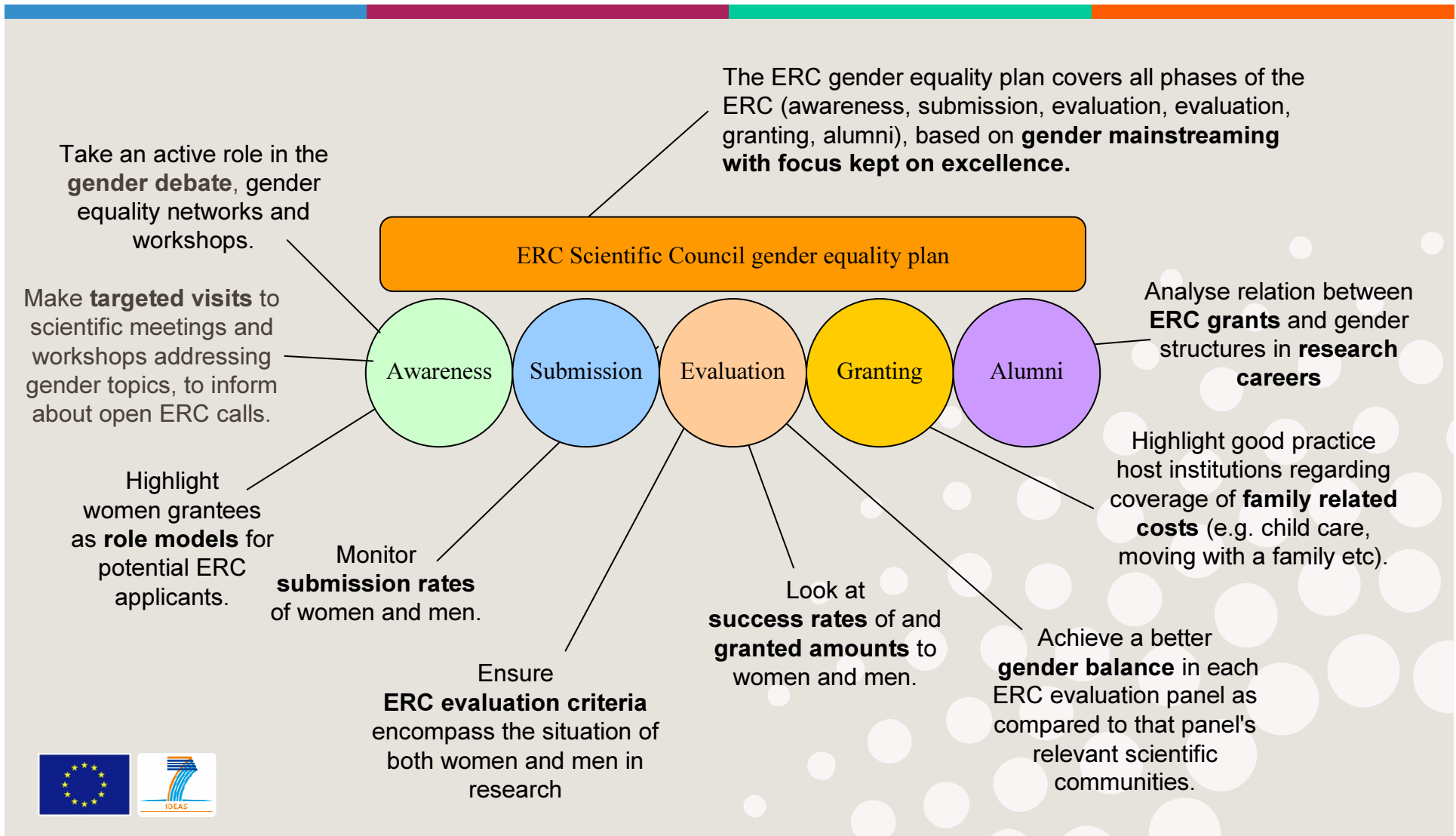


Grade B: " Researchers working in positions not as senior as top positions (A) but more senior than newly qualified PhD holders"(She Figures 2009)



ERC Scientific Council Gender equality plan 2007 – 2013

– example of steps to be taken





6.

Conclusions



Unfinished success story: What remains to be done?



- Increase ERC grant applications from outside Europe: internationalization strategy to make Europe attractive for frontier research
- Increase successful applications by women scientists, without compromising on excellence
- Increasing successful applications from under-performing Member States/regions (50 % grants go to 40 institutions, 'excellence attracts excellence'); increase quality of research infrastructures, combined with individual competitive grants under Cohesion policy
- Increase awareness in industry for opportunities of ERC funding
- Horizon 2020: ERCEA is well prepared to manage larger budget with low administrative cost