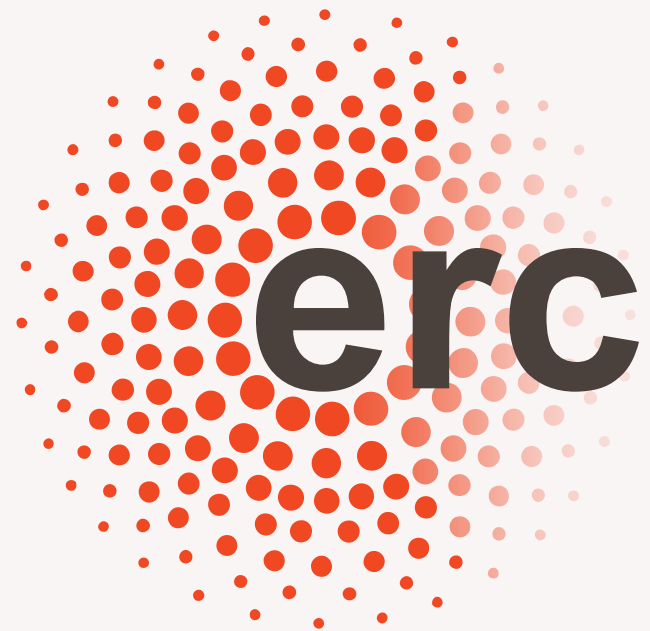


The European Research Council

Engineering Professors' Council April 2008

William Cannell

Head of ERC Strategy Unit
European Commission



The birth of the European Research Council

The ERC is:

- A logical development of the European Research Area
- Securely anchored in European legislation

... at the same time

- A revolutionary development

ERC, “Ideas” and FP7

- A new “institution”
- Which is also part of the “family” of FP7:
 - Co-operation
 - **Ideas**
 - People
 - Capacities
- Complementary to other FP7 support to targeted research (bottom-up vs. targeted research)

FP7 Ideas Programme

- **Creates ERC**

- **Provides funding**
 - **Budget (2007-2013) : € 7.51 bn**
(around 15% of FP7 budget)
 - **Average budget: € ~1 bn per year**

- **Sets overall objectives for research and operating principles**

Boost European excellence

- by investing in the best researchers and ideas
- through competition at European level
- on the basis of scientific excellence as the sole criterion
- raising incentives towards quality and aspirations of individual researchers
- providing benchmarks and leverage towards broader (structural) improvements in European research

Why “Frontier Research”?

- Research at the frontiers is characterised by an absence of disciplinary boundaries
- New discoveries are often triggered by real world problems (and vice-versa)
- Progress in understanding phenomena and techniques for investigation go hand in hand

→ **Traditional terminology** (“basic” / “applied” research; “science” vs “technology”) **is no longer appropriate**

ERC Actors

The Scientific Council

Independent scientific governance

The Agency

Practical implementation and management of operations

The European Union

Providing the financial means

Commission guarantees autonomy and integrity

Objectives & Activities

Objectives: Retain – Repatriate – Recruit

⇒ Favour “**brain gain**” and “**reverse brain drain**”

- improve **career opportunities and independence** - especially for young researchers
- increase **competition, recognition and international visibility** - for excellent individual scientists and scholars in Europe

Activities: Two complementary funding schemes

- **ERC Starting Grant (StG)**: attract & retain the next generation of independent research leaders
- **ERC Advanced Grant (AdG)**: attract & reward established independent research leaders

ERC budget

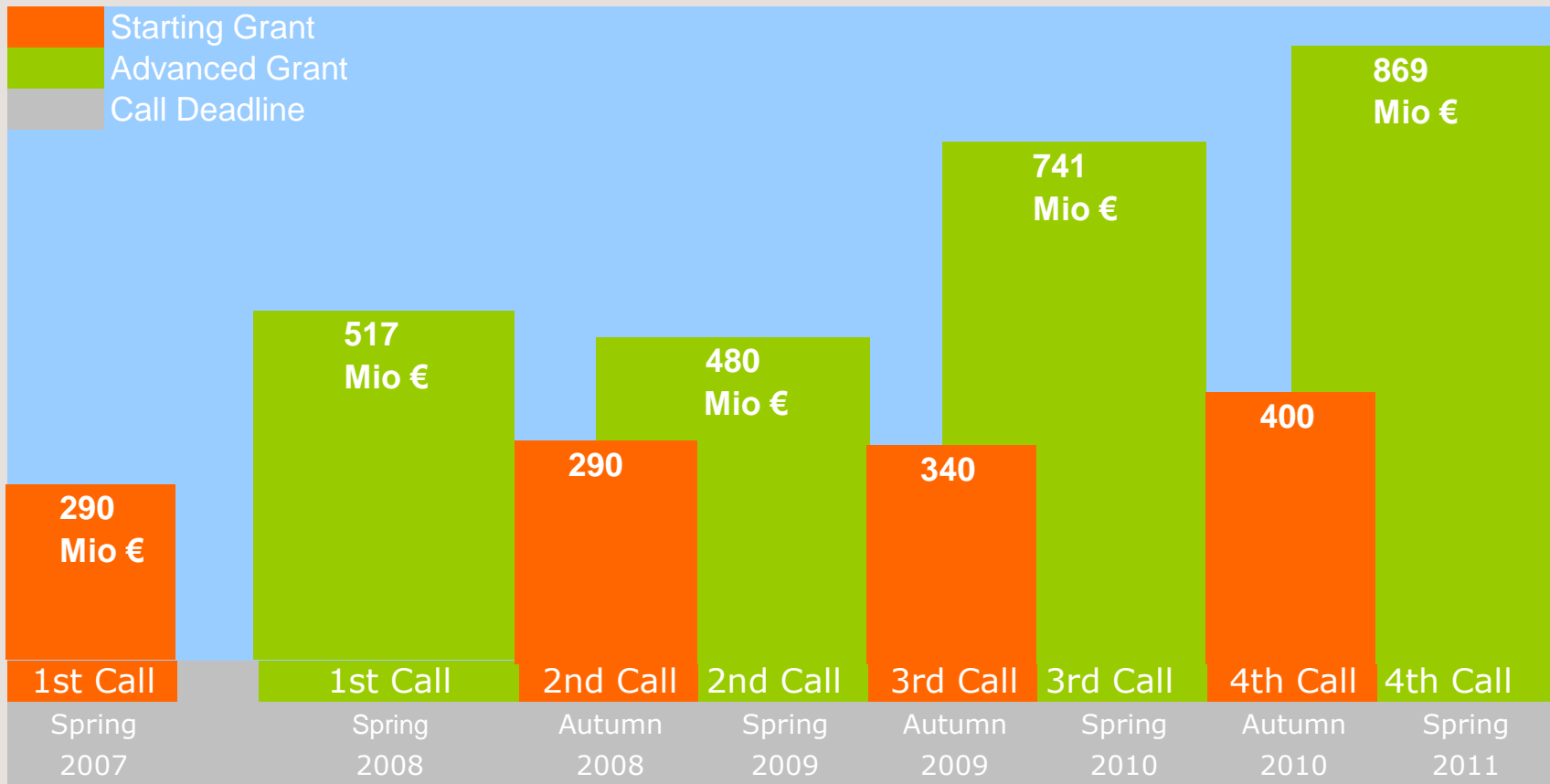
2007-2013

- **Total (FP7 Ideas budget): € 7.51 bn**
 - ≈1/3 Starting Grants, ≈ 2/3 Advanced Grants
 - Less than 5% for operational ERC management
- **2007**
 - StG1 only, € 300m; call closed on 25 April 2007
- **2008 onwards**
 - AdG + StG
 - Rising budget to ~€1.7 bn in 2013



Prospective Schedule

Calls and Budget 2006 - 2011



ERC Grants

Who can apply ?

- Individual Research Teams:
 - headed by a single “**Principal Investigator**” (team leader)
 - of any nationality
 - if necessary, including additional team members.
- The “Principal Investigator” has the freedom to choose the **research topic** and the power to assemble his/her **research team** meeting the needs of the project.
- Teams can be of **national or trans-national** character.

ERC Starting Grant

(ERC Starting Investigator Researcher Grant)

- **Principal Investigator** - 2 to 9 (3 to 8) years after PhD
- Support researchers at the start of their independent research career and **establishing or consolidating their own independent research team** (or research programme)
- Provide a structure for **transition** from working under a supervisor to an independent research leader
 - ~ **€100k – 400k per grant per year** (for up to 5 years, i.e. ~ €500k-2m per Grant)
 - ~ **1/3 of ERC annual budget** per year, annual calls
 - ~2-300 Starting Grants per year, ~1500 Starting Grants over 7 years of FP7 (2007-2013)

ERC Advanced Grant

(ERC Advanced Investigator Researcher Grant)

- **Principal Investigator** - possible benchmarks of 10 year “track record”
- **Flexible grants** for ground-breaking, high-risk/high-gain research that opens new opportunities and directions including those of a multi- and inter-disciplinary nature
- **Complement to the ERC Starting Grants**, targeting researchers who are already established independent research leaders
 - for up to 5 years, i.e. normally up to ~2,500,000 Euro per grant (may go up to ~3.5 MEuro in specific cases)
 - ~ 2/3 of **ERC annual budget**, annual calls
 - ~ 300 Advanced Grants per year

Evaluation Criteria

Scientific Excellence is the sole criterion

1. Potential of Principal Investigator
2. Quality of research project
3. Research Environment and Resources
 - Referees and panels evaluate and score criteria under Heading 1 and Heading 2 numerically which will result in the ranking of the projects:
 - 0-5 points, in increments of 0.5
 - Threshold 8 / 10
 - Criteria under Heading 3 will be considered as "pass/fail" and commented but not scored

ERC Starting Grant

Budget Allocation

- ERC covers **all fields of science, engineering and scholarship**
- For operational reasons the ScC agreed on **3 main research domains**:
 - **Physical Sciences & Engineering**
 - **Biological & Life Sciences**
 - **Social Sciences and Humanities**
- The **first call budget for ERC Starting Grants** has been **pre-allocated to these areas** as follows:
 - **45% - 40% - 15%**

ERC Peer Review Panels

25 peer review panels in 3 domains

Domain 1: Physical Sciences, Engineering Sciences, Universe and Earth Sciences (10 panels)

Domain 2: Biological and Life Sciences (8 panels)

Domain 3: Social Sciences and Humanities (6 panels)

- Each panel consists of one Panel Chair and 10-12 panel members (selected by Scientific Council and drawn from all parts of the world)
- Panel Chair oversees evaluation process for the proposals assigned to his/her panel in collaboration with the ERC staff
- The Panel Chair gives high level stamp of credibility and visibility to the whole evaluation process

ERC Peer Review Panels

Interdisciplinary, forward-looking construction

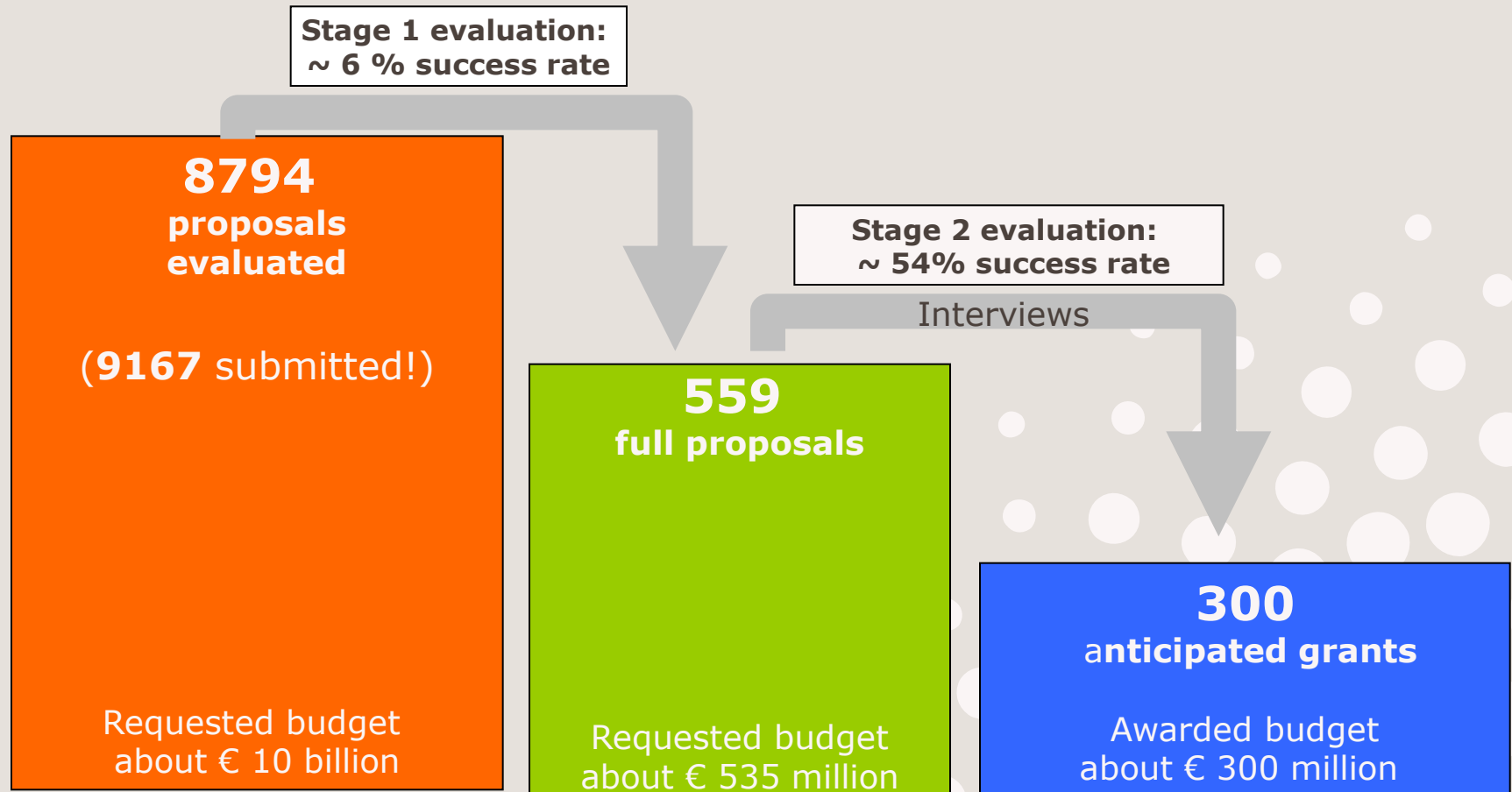
Examples of the ERC Panel Structure in Engineering

- **PE6 Computer science and informatics**
- **PE7 Systems and communication engineering**
- **PE8 Products and process engineering**
- **LS7 Diagnostic tools, therapies and public health**
- **LS9 Applied life sciences and biotechnology**



ERC Starting Grant

Two step evaluation process

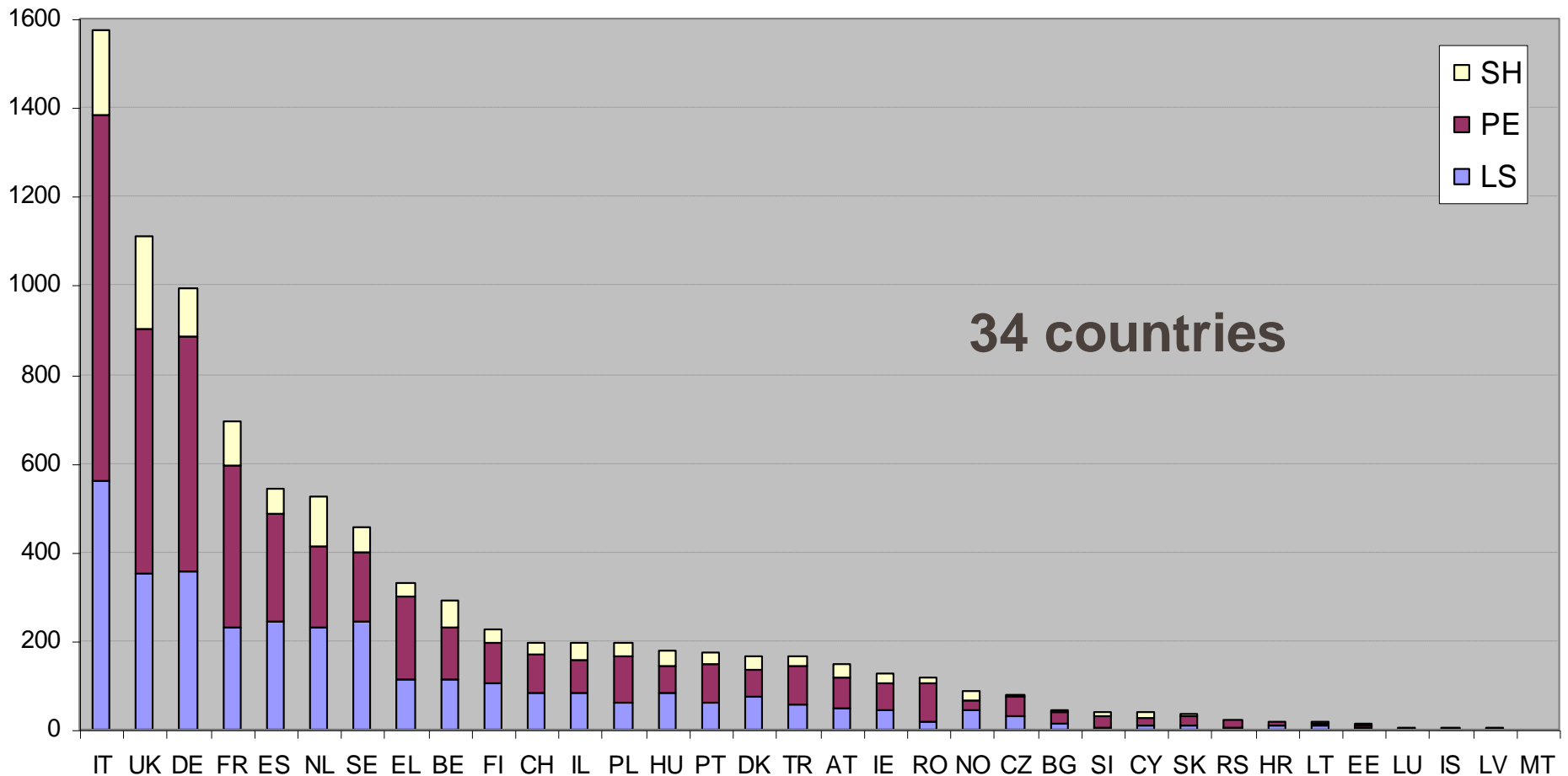




ERC Starting Grant – Stage 1

Country of host institution of the 8794 evaluated proposals

Number of eligible proposals by domain and country of host institutions

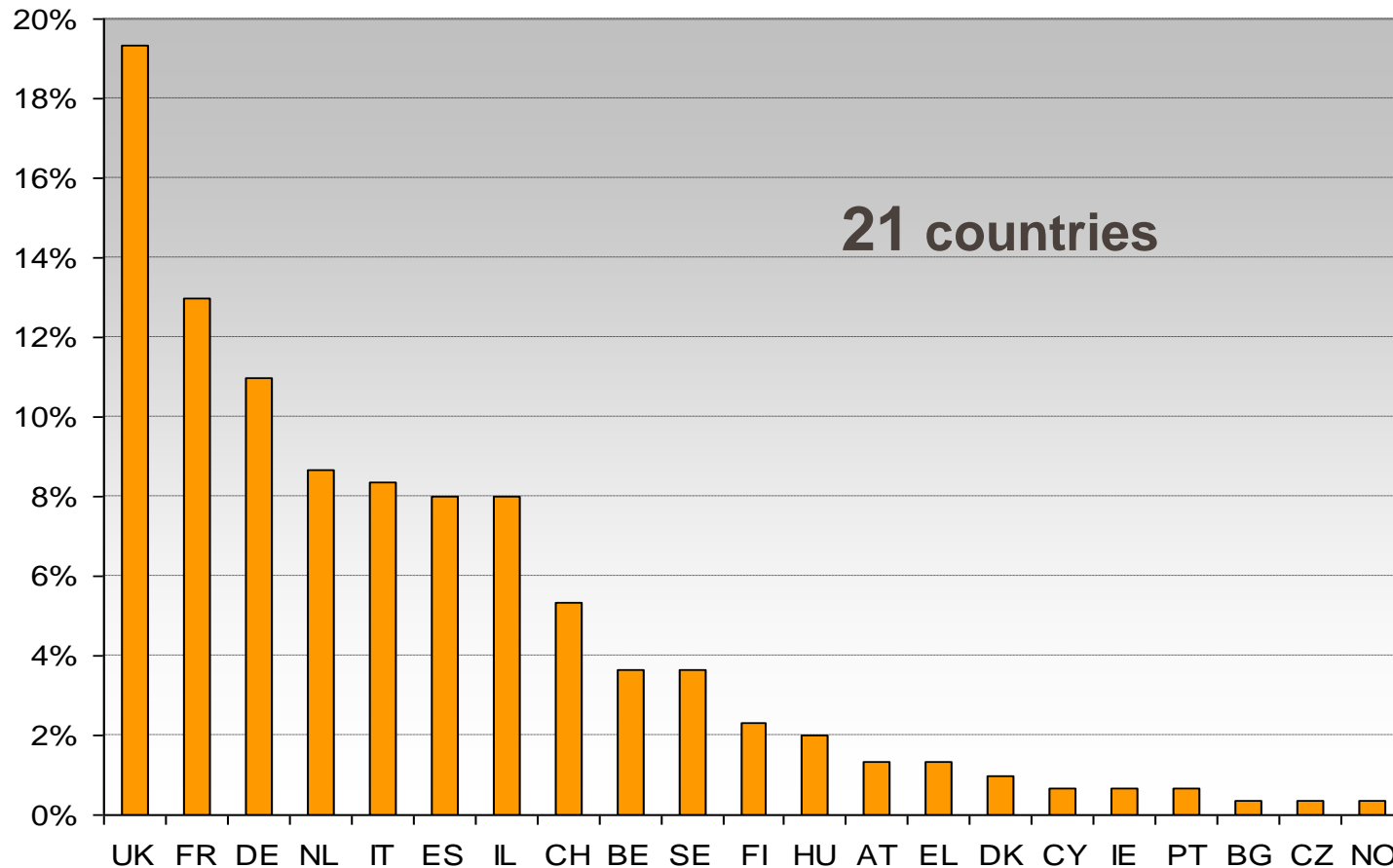




ERC Starting Grant – Stage 2 Outcome

By country of host institution of the 300 selected proposals

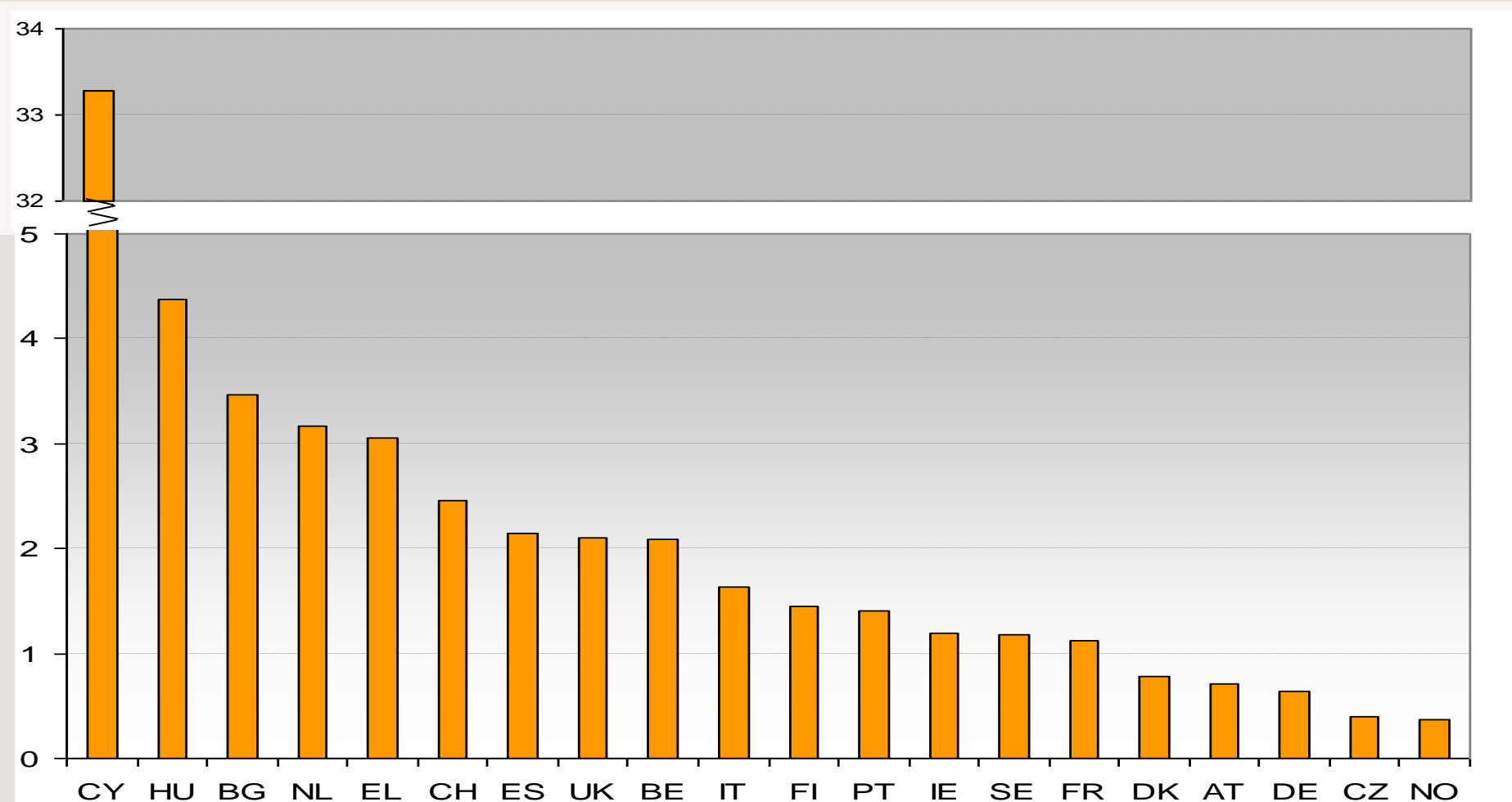
Percentage of grants by country of host institution



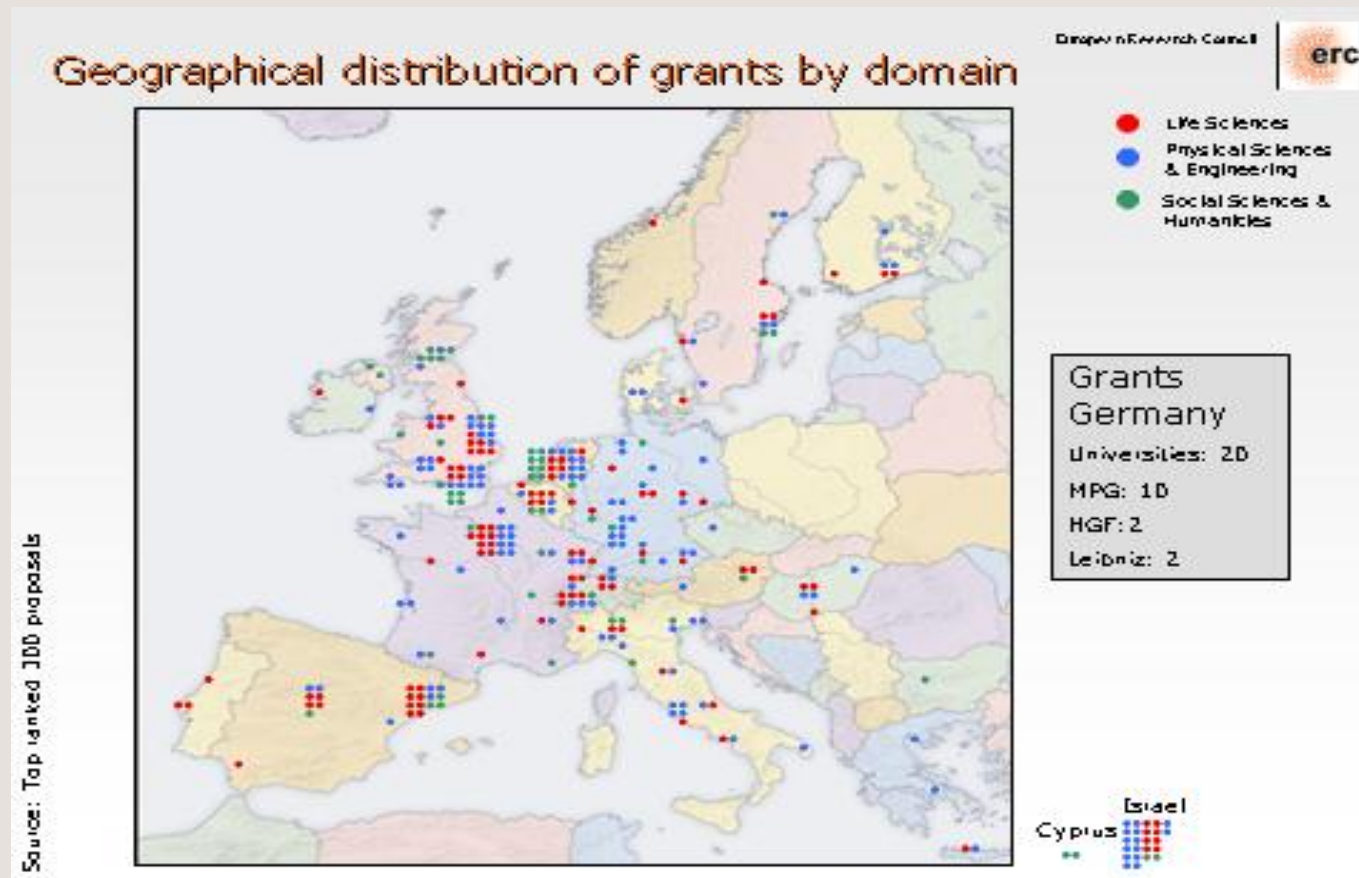
Grants in relation to R&D expenditure

(of the 300 selected proposals)

Grants by country of host institution per Gross Domestic Expenditure on R&D in PPS* (x1000)

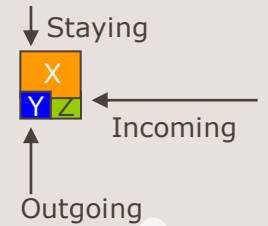
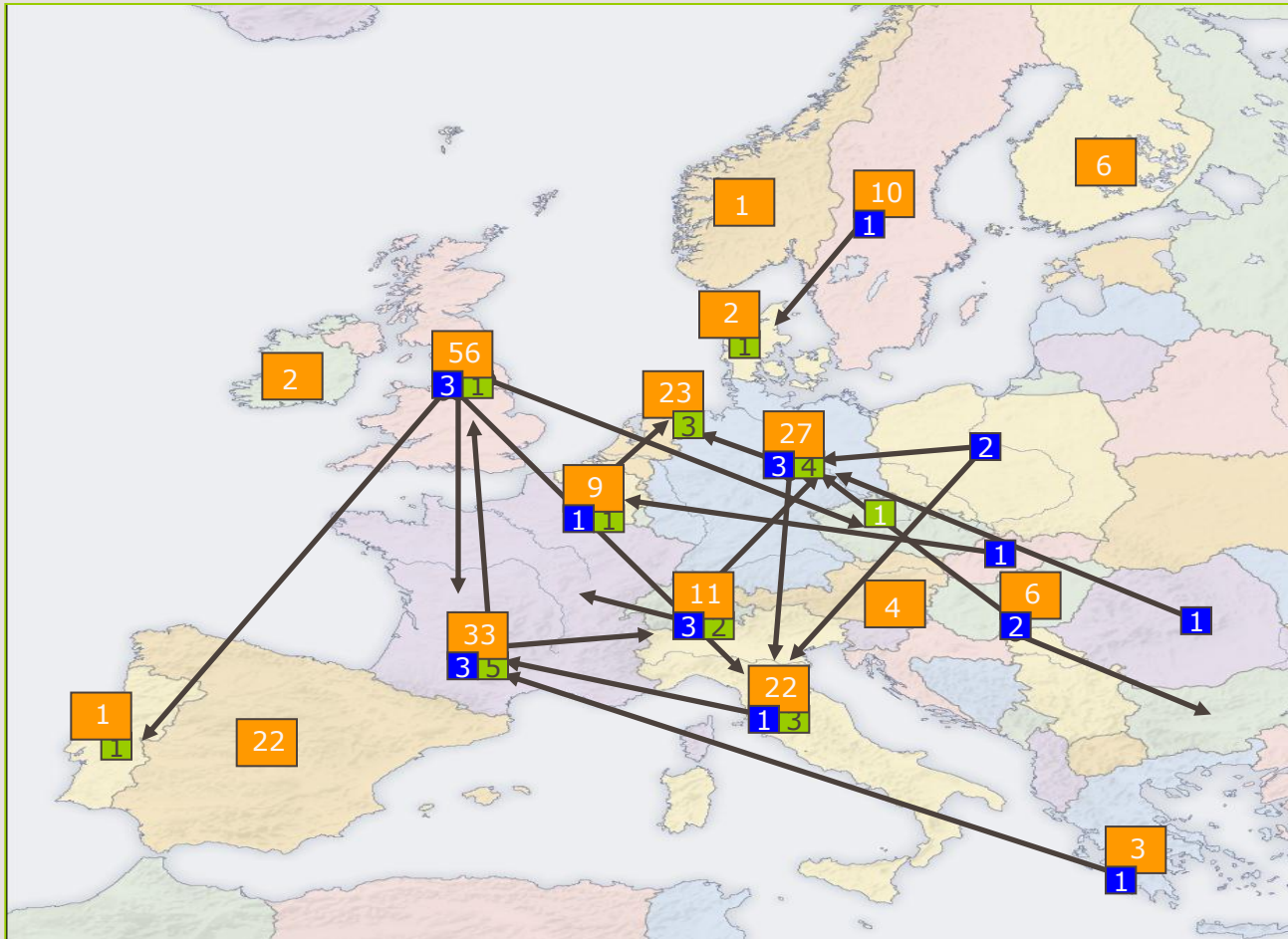


Starting Grants: Geographical distribution



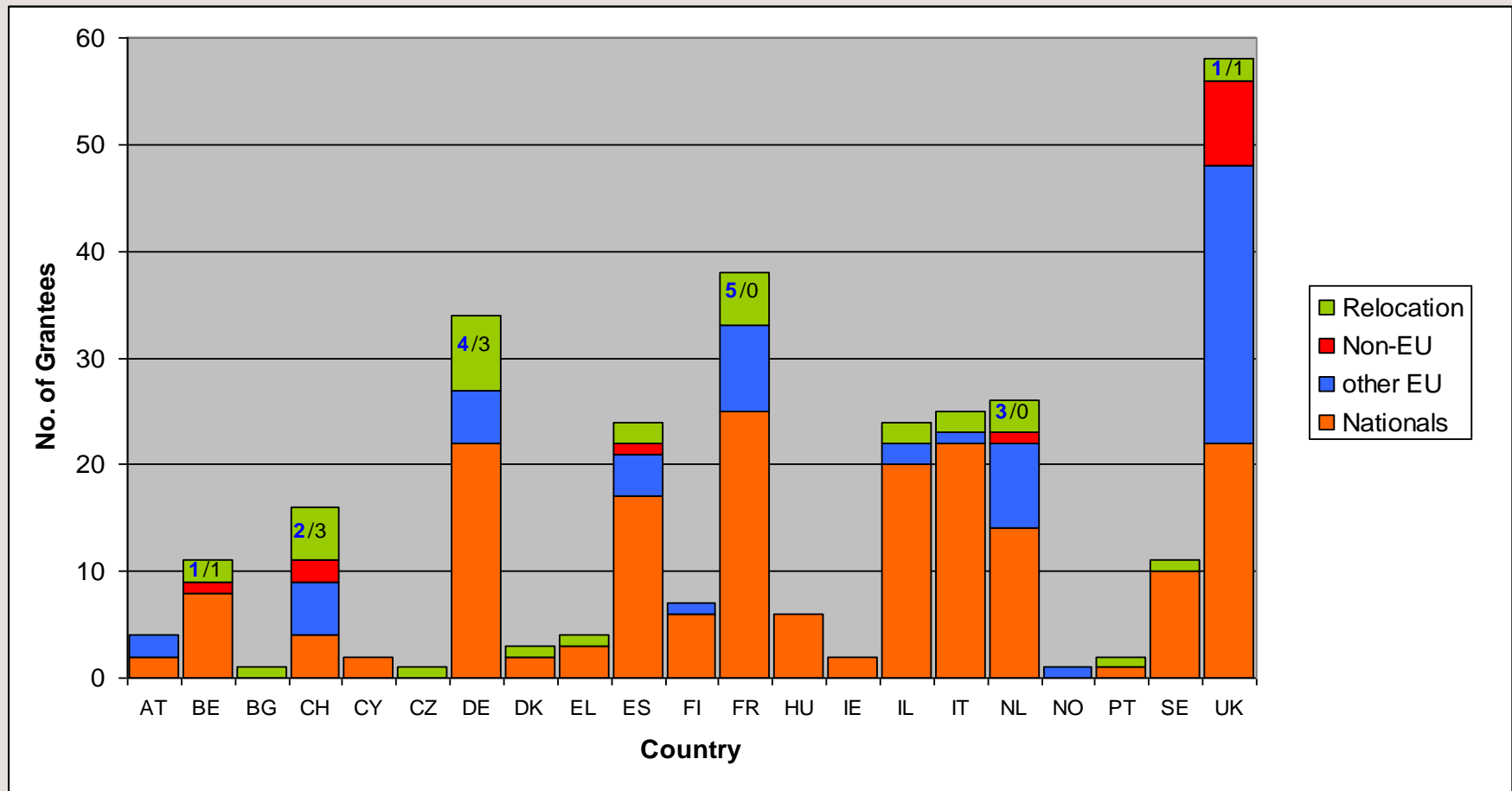
ERC-2007-StG

Intra-European mobility



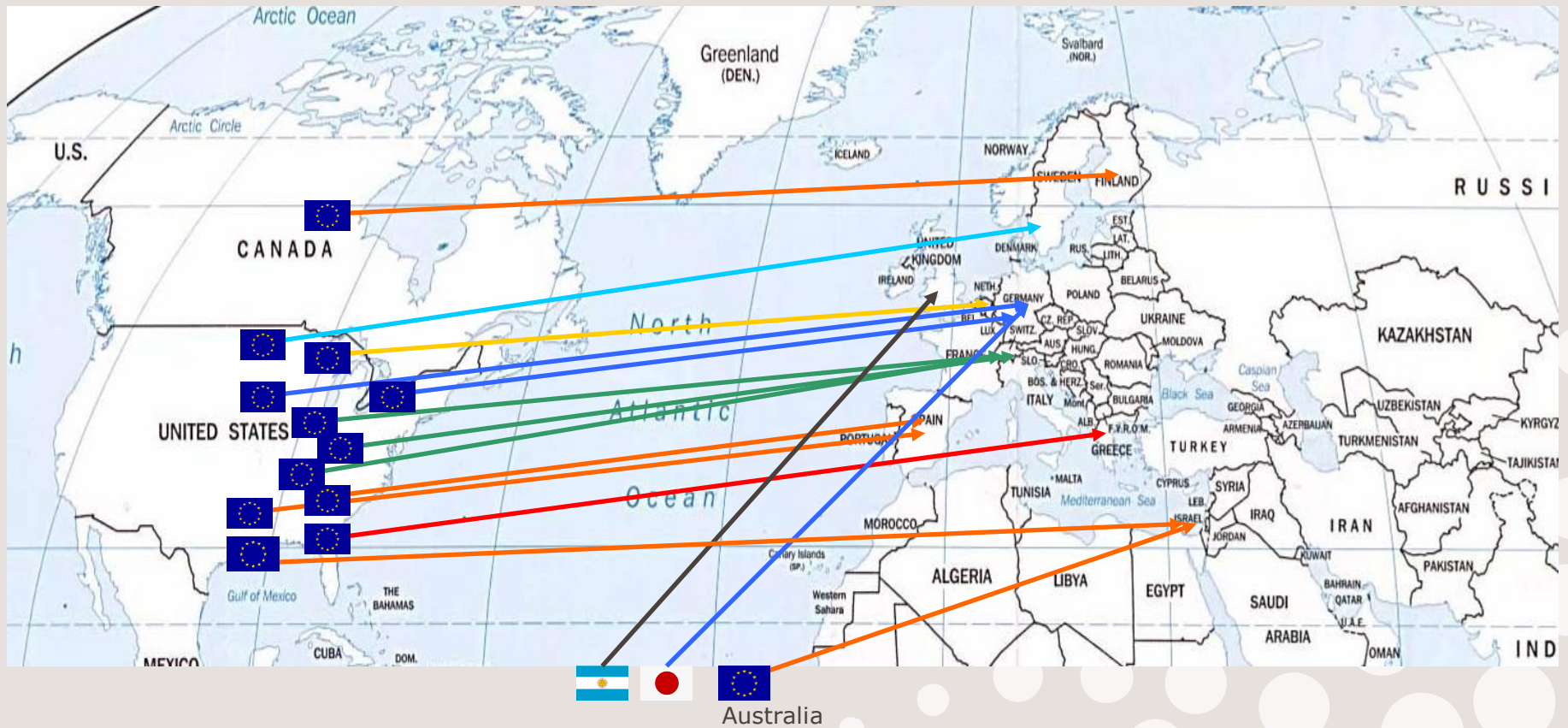
CY 2
IL 22

Grantholders: Remain and Relocate



ERC-2007-StG

Repatriation and Recruitment to Europe



ERC Advanced Grant

Planned Schedule for proposal submission

- **Call Publication:** 30 November 2007
- Fully **electronic submission**
- **3 different deadlines** by domain:
 - Physical Sciences (PE): 28th February 2008
 - Social Sciences: 18th March 2008
 - Life Sciences: 22nd April 2008
- Proposals received in PE = 997; in SH =403
- Communication of **results** planned October 2008

ERC Advanced Grant

Lessons learned from StG 1

1. Managing demand for grants

→ Maximise call budget

- ↳ By combining budgets over 2 successive years (only one application per researcher in either 2008 or 2009)

→ Encourage the best to apply

- ↳ Excellent track record (in recent years)
- ↳ Strong leadership profile

→ Discourage trivial or low-quality applications

- ↳ Applications should be substantive (one-stage submission with two stage evaluation)
- ↳ Disincentives to submission of applications which are not of the highest quality

Relationship to National Research Councils

- 1: Create added-value; Do things which national councils cannot do!
- 2: Elicit support from National Councils through seconded national experts
- 3: Develop cooperation schemes with EuroHORCS (Conferences; accreditation of reviewers; conflict-of-interest rules)

Applicants Services

- **ERC National Contact Points**
inform, raise awareness and provide advice on ERC funding opportunities, application, follow-up
- **ERC helpdesk**
- **EPSS helpdesk**
technical support on electronic proposal submission
- **ERC website: <http://erc.europa.eu>**
→ News Alerts



Thank you!

erc.europa.eu