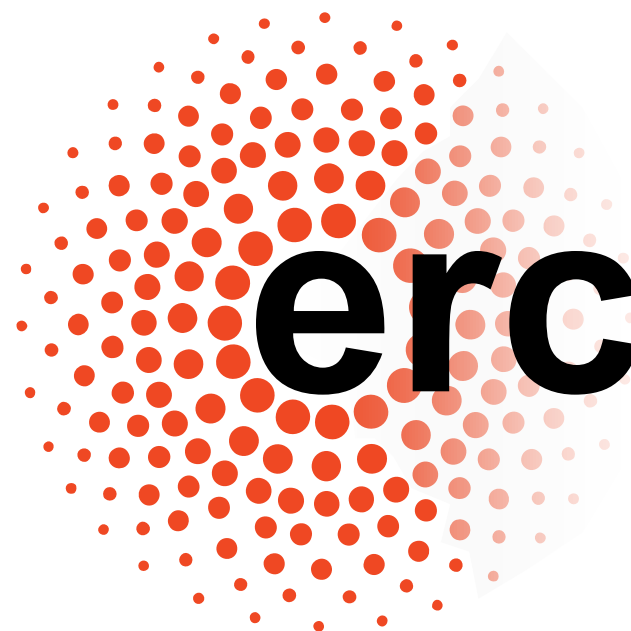


LA VALUTAZIONE DEI PROGETTI DI RICERCA: L'ESPERIENZA DELL'ERC

European Research Council

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Scientific Affairs Department



Consiglio Europeo per la Ricerca

<http://erc.europa.eu>

Che cosa e' l'ERC?

L'ERC e' l'Agenzia Esecutiva che gestisce i fondi del programma IDEAS

7th Programma Quadro (FP7) 2007-2013:

- Co-operation
- **Ideas**
- People
- Capacities



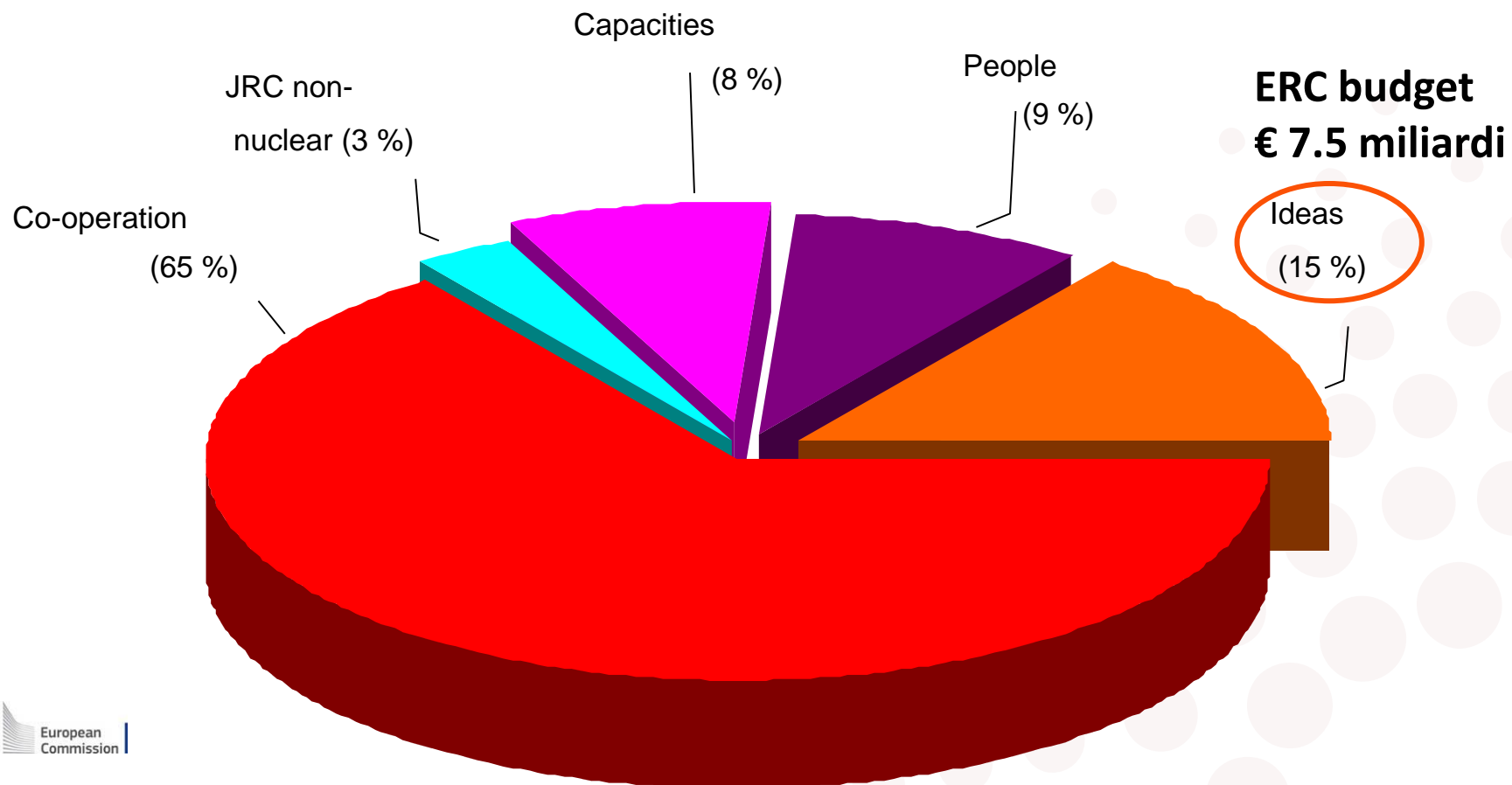
- L'unico criterio e` l'eccellenza scientifica
- ricerca di base su progetti molto innovativi ("frontier research")
- pochissime regole e vincoli
- Individuale vs. consorzi
- approccio bottom-up in tutti i campi della ricerca

II Budget



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2007-2013: FP7 budget € 50.5 miliardi



La Struttura

Commissione Europea

- Fornisce finanziamento attraverso FP7
- Garantisce autonomia alla ERC
- Assicura integrità e trasparenza gestionale dell'ERC
- Adotta i WP annuali, su proposta del Consiglio scientifico

Consiglio Scientifico

- 22 scienziati di alto livello, nominati dalla CE
- Stabilisce strategia scientifica: WP annuali
- Controlla qualità dell'operato dell'agenzia
- Mantiene dialogo con la comunità scientifica

Agenzia - ERCEA

- Esegue i WP annuali
- gestisce i bandi
- organizza le valutazioni peer review
- gestione dei contratti

Caratteristiche di un ERC Grant

- **Molto competitivo:** ~10% percentuale di successo
- **Consistente:** €1.5M – €2M for Starters / Consolidators
- **Bottom-up:** aperto a tutte le discipline di ricerca
- **Ambizioso:** per raggiungere o accrescere l'indipendenza del PI, formazione di un gruppo di ricerca
- **Per una ricerca "High-risk/ High-gain"**
- **Portabile**
- **Prestigioso**

PI= principal investigator

I Grants ERC



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Starting Grants

(2-7 anni dopo il
Dottorato)

Fino a 2.0 Milioni di €
Durata: max 5 anni

ricercatori nelle prime fasi del
passaggio verso l'indipendenza

Consolidator Grants

(7-12 anni dopo il
Dottorato)

Fino a 2.75 Milioni di €
for 5 years

ricercatori nella fase di
consolidamento della carriera

Advanced Grants

track-record degli
ultimi 10 anni
Fino a 2.0 Milioni di €
Durata: max 5 anni

ricercatori affermati

Synergy Grants

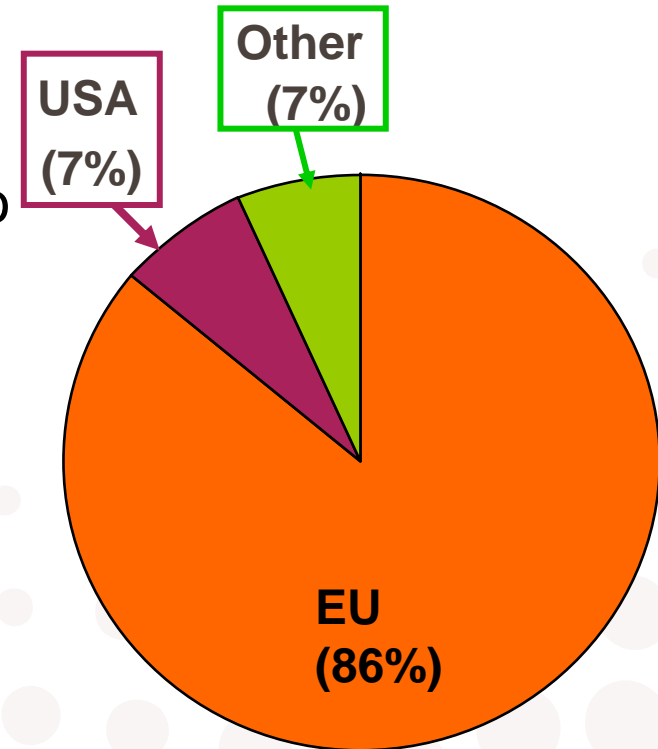
2 – 4 *Principal* Investigators
Fino a 15.0 Milioni di €
Durata: max 6 anni

Proof-of-Concept

Dalla ricerca alla commercializzazione
Fino a €150,000 destinato solo a
titolari di un ERC grant

Chi valuta le proposte?

- **Membri del Panel:** circa 600 / call
 - Scienziati di alto livello da tutto il mondo
 - Nominati dal Comitato scientifico
 - Circa 12 membri + chair
- **Esperti esterni:** circa 2000 / call
 - Valutano solo poche proposte e solo a distanza



Chi valuta le proposte?

Ogni panel : Panel Chair + ~ 15 Membri del Panel

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

Struttura della Proposta

Parte A: Parte Amministrativa

Parte B1:

- o Potenziale di leadership scientifica del PI (1 pag)
- o CV (2 pag)
- o track record: pubblicazioni e premi (2 pag)
- o Sinossi del progetto di ricerca (5 pag)

Allo step 1 viene valutata solo la parte B1

Parte B2: Progetto di ricerca completo (15 pag)

Allo step 2 viene valutata la parte B1 e B2

Struttura della Proposta



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Il candidato puo' scegliere il panel in cui la proposta verra' valutata. Puo' inoltre selezionare un panel secondario

Le proposte possono essere valutate in un panel diverso da quello richiesto dal PI nel caso di chiaro errore o nel caso nel panel non ci siano esperti vicini alla proposta, invece presenti in un altro panel

Il panel e' responsabile della valutazione delle proposte che gli sono state attribuite

Per le proposte di carattere interdisciplinare il panel chair puo' richiedere il contributo di membri di altri panels

Criteri di valutazione

L'eccellenza come solo criterio:

1. Progetto di Ricerca

Innovazione

Impatto potenziale

Approccio scientifico

2. Ricercatore - Principal Investigator (PI)

Capacita'

Creativita'

Impegno

Prima della valutazione



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Pubblicazione
documenti utili

Work-Programme
Call
Guides for Applicant and Peer Reviewers

Selezione Membri dei
Panel

Circa 700 membri per anno
Contratto multi-annuale (max. 4 anni di
attività)
Dichiarazione delle Expertise su base
di parole chiave pre-definite
Dichiarazione Conflitti di interesse

Panel – chair meeting

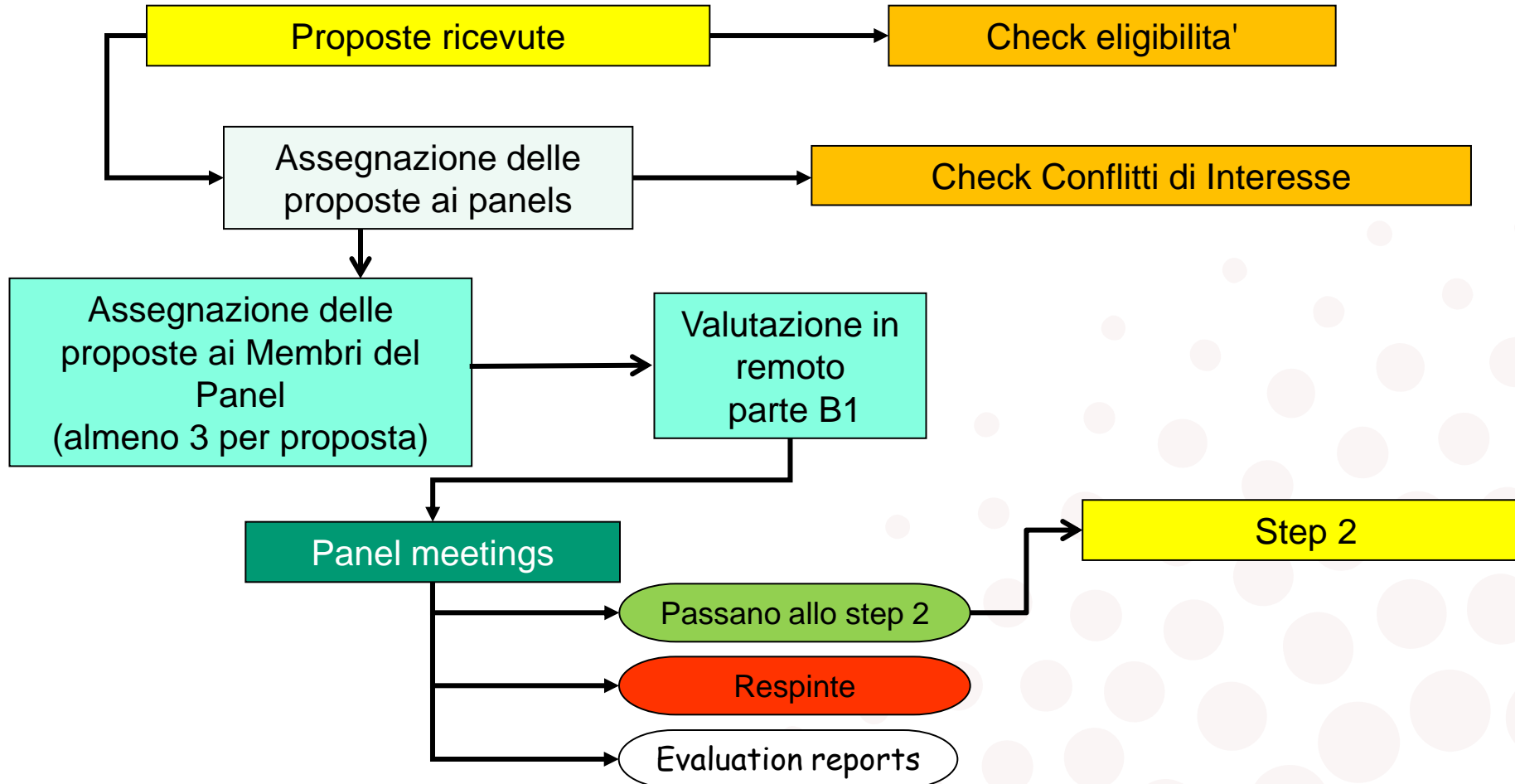
Briefing a Bruxelles di tutti i panel chairs

Valutazione : 1 stage, 2 steps



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STEP 1

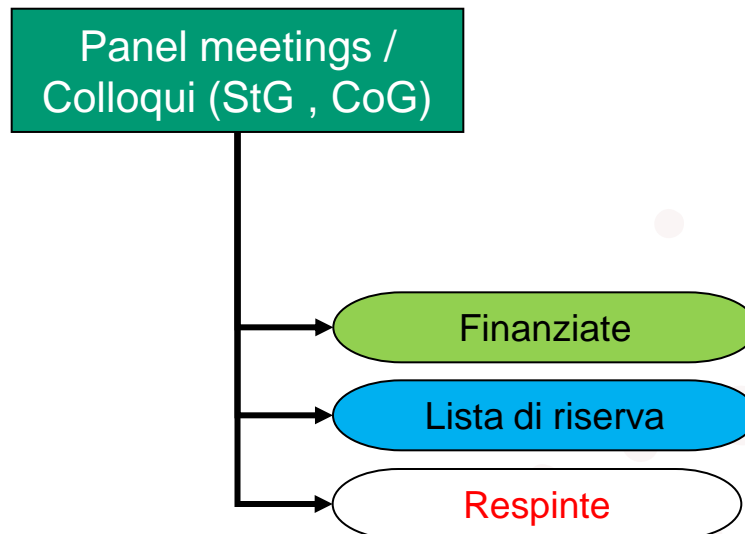
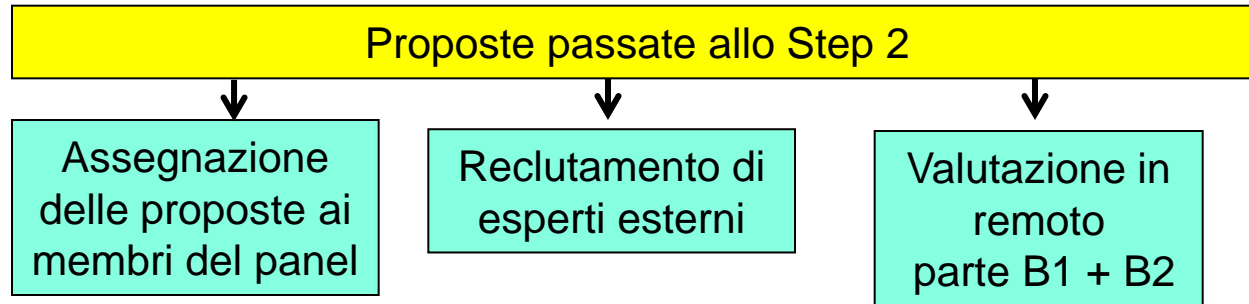


Valutazione : 1 stage, 2 steps

STEP 2

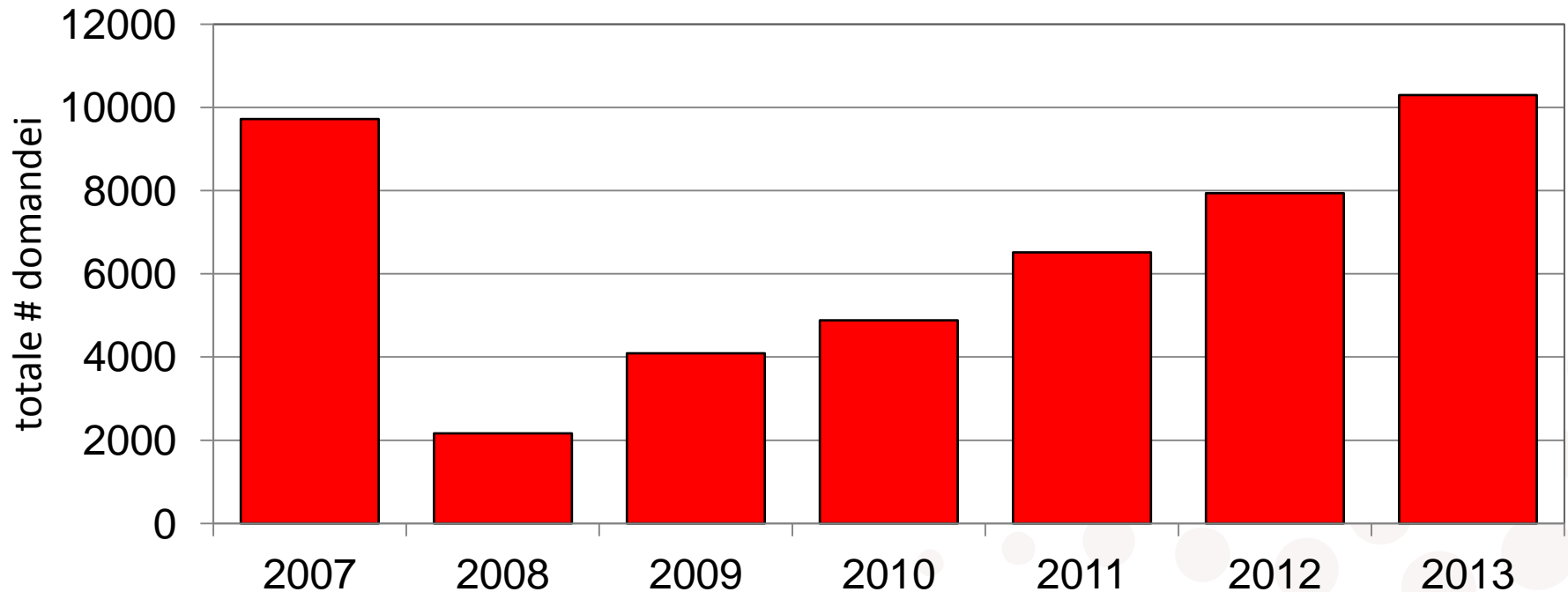


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Risultati dell'ERC

ERC 2007-2013 – Numero di proposte presentate



Piu' di 40.300 proposte presentate
Piu' di 3.200 proposte finanziate

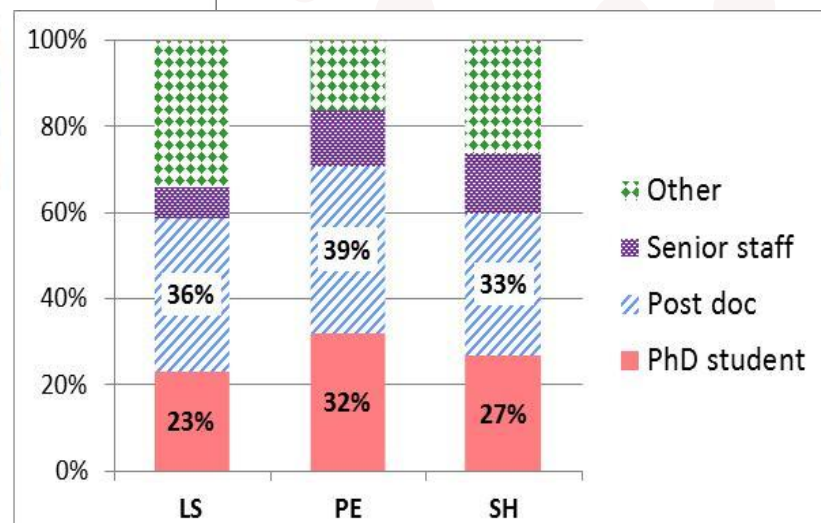
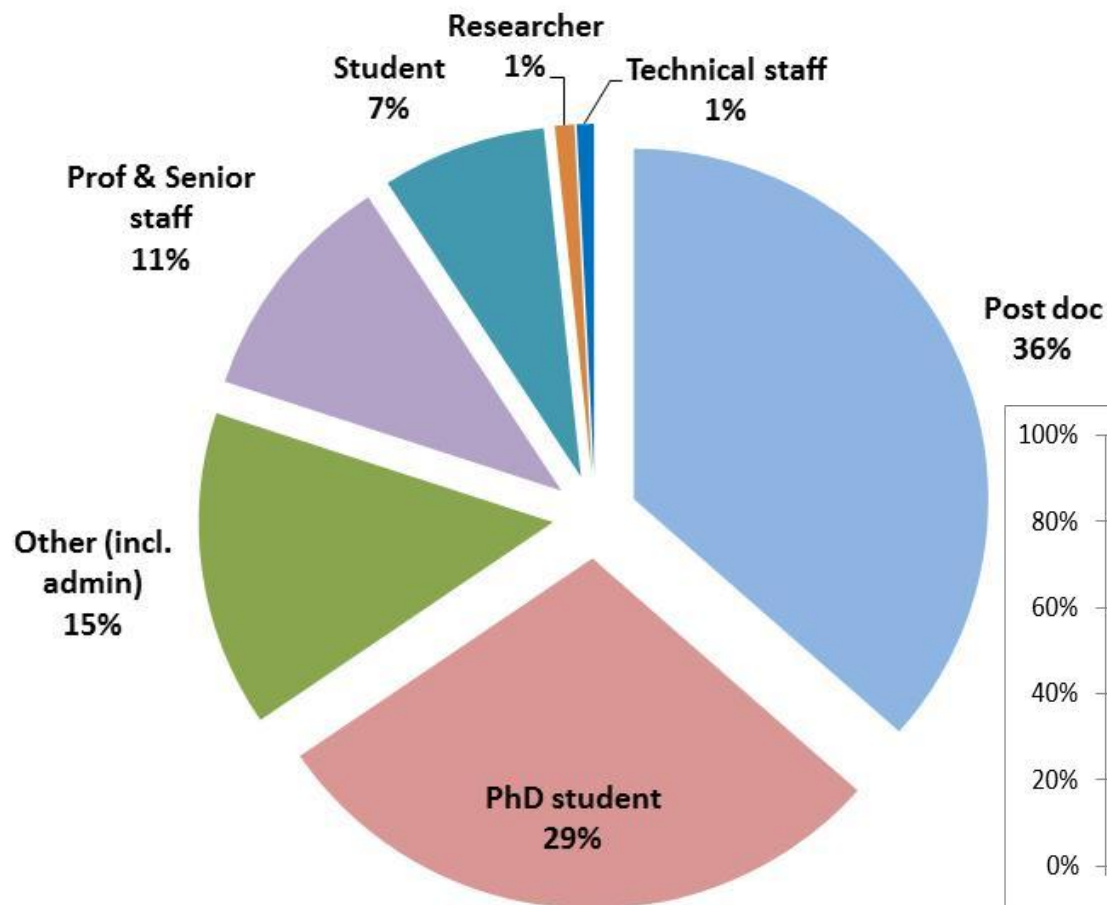
Risultati dell'ERC: promuovere una nuova generazione di scienziati



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Staff distribution by role

636 ERC projects, 3845 staff members, head count excluding PI

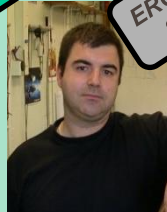


Risultati dell'ERC

Premi Nobel



Serge Haroche
Nobel 2012



Konstantin Novoselov
Nobel 2010



Andre Geim



Theodor Hansch



James Heckman



Jean-Marie Lehn

ERC Grantee
AdG 2009

ERC Grantee
StG 2007

ERC Grantee
AdG 2012

ERC Grantee
AdG 2010

ERC Grantee
AdG 2010

ERC Grantee
AdG 2011

Fields Medalists



| | |
|--------------------|----------|
| Stanislav Smirnov | AdG 2008 |
| Simon Donaldson | AdG 2009 |
| Elon Lindenstrauss | AdG 2010 |

Altri premi

EMBO GOLD MEDAL 2011 – Simon BOULTON - AdG 2010

FEBIS|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'Huillier - AdG 2008

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

MILLENIUM AWARD 2010 – Michael GRATZEL - AdG 2009

2013 Wolf Prize

Peter Zoller - SyG 2012

Premi 2012

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



GRAZIE

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EXTRA SLIDES

Criteria di valutazione – in dettaglio

The evaluation criteria for selection of proposals for Starting/Consolidator/Advance/Synergy grants are the following:

1. Research Project

Ground-breaking nature, ambition and feasibility

Ground-breaking nature and potential impact of the research project

To what extent does the proposed research address important challenges?

To what extent are the objectives ambitious and beyond the state of the art (e.g. novel concepts and approaches or development across disciplines)?

How much is the proposed research high risk/high gain?

Scientific Approach

To what extent is the outlined scientific approach feasible (based on Extended Synopsis)?

To what extent is the proposed research methodology appropriate to achieve the goals of the project (based on Scientific Proposal)?

To what extent does the proposal involve the development of novel methodology (based on Scientific Proposal)?

To what extent are the proposed timescales and resources necessary and properly justified (based on Scientific Proposal)?

Added value of the Group (for Synergy Grants)

To what extent does the proposal require and demonstrate novel working arrangements, significant synergies and scientific added-value to enable it to achieve its objectives?

Do they go beyond what the individual Principal Investigators could achieve alone?

Marks from 4 (outstanding) to 1 (not competitive) + comment box (max 3500 characters)

Criteria di valutazione – in dettaglio

2. PI intellectual capacity, creativity and commitment

- The track record of the PI is characterized by groundbreaking research and his/her achievements have typically gone beyond the state-of-the-art.
- The track record of the PI contains abundant evidence of creative independent thinking.
- The PI has demonstrated sound leadership in the training and advancement of young scientists.
- The PI demonstrates the level of commitment to the project necessary for its execution and demonstrates the willingness to devote a significant amount of time to the project

Each is marked Fully agree / Agree partially / Disagree partially / Strongly disagree

Criteria di valutazione – in dettaglio

The evaluation criteria for selection of proposals for Proof of Concept Grants are the following:

1. Innovation potential:

1.1 Proposals demonstrate that the proposed proof of concept activity could greatly help move the output of research towards the initial steps of an innovation process leading to a new or significantly improved product, process or method of production, or form of organization or methodology (**commercial innovation**); or a new principle, a new piece of legislation, a new social movement, an intervention, a new form of participation (**social innovation**).

The following sub-criteria will also be taken into account when evaluating the proposal and its innovation potential:

1.2 The **economic and/or societal benefits** of the project to be taken to proof of concept are identified.

1.3 The proposal indicates the process designed either to generate a **financial profit** i.e. the commercialisation process to be followed (licenses to a new or existing company, a venture funded start-up, a spin-off company, other forms) or any other process designed to generate a **social benefit**.

1.4 (Where applicable) Plans for seeking confirmation of the technology/product/process (**testing, technical reports**) and a brief explanation of what testing is foreseen are included.

1.5 (Where applicable) Plans for undertaking initial steps of **market research** in order to find out features which make the proposed technology/product/process innovative or distinctive compared to other technology/product/process are included. The proposal includes plans for analysing the competitive advantage of the technology/product/process vs. alternate technology/product/process that can meet the same market needs.

1.6 (Where applicable) Plans to clarify the **IPR position and strategy** are proposed, including an evaluation on whether there is an opportunity for creating intellectual property protection (in terms of patents or other forms of protection)

1.7 (Where applicable) Plans for **industry/sector contacts**, appropriateness of receptor company/organization, ability to further the development of the technology/product/process is demonstrated. Activities aimed at attracting further funding from non-ERC sources once the ERC-funded activities end will also be considered, including activities aimed at identifying specific companies for further financial commitments. If there are no "hard" commitments for funding (i.e. letters of support or intent), demonstration of a solid roadmap for pursuing the funding needed for future commercialisation is included.

Criteria di valutazione – in dettaglio

2. Quality of the proof of concept plan:

The proposed proof of concept is based on a sound approach for establishing technical and commercial feasibility of the project.

2.1 A reasonable and acceptable plan of the proposed activities is provided, including the planned funding against clearly identified technical and commercial objectives.

2.2. A sound project-management plan is presented, including appropriate risk and contingency planning.

2.3 The proposed activities are to be conducted by persons well qualified for the purpose.

3. Budget:

The requested budget shall be necessary for the implementation of the proposed proof of concept and properly justified.

Pass/fail marks