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The European Research Council

Strategy, challenges and prospects for the European Research Council
 Helga Nowotny, President of the ERC

Information meeting on the 2012 ERC calls for proposals for Advanced & Synergy Grant
 Leuven 8 December 2011




Excellence only – “The best that has happened in EU funding”

How to translate a vision into action: a three-pronged strategy



- designing and setting up an excellent peer-review system at world-level (including constant monitoring and improvement)
- Scientific Council selects excellent peers as evaluators: “to recognize excellence when you encounter it...”
- excellence in implementation: a highly professionalized ERC Executive Agency




Selecting the selectors



Scientific Council

- Independent 5-person Identification Committee selects 22 eminent scientists and scholars as Scientific Council (ERC founding members)
- ScC sets up 25 panels for all areas of science and scholarship
- ScC selects approx. 1400 panel members coming from more than 40 institution countries



Frontier research: who, what and how

- bottom-up (no thematic priorities) all fields of science and scholarship
- individual PIs and their teams (4-5 post-docs and Ph.Ds)
- Starting Grants with two streams (starters 2-6 years past Ph.D. and consolidators 7-12 years past Ph.D.)
- cultivating the next generation: early scientific independence
- Advanced Grants: encourage risk-taking, break-through ideas

Achievements of the ERC - so far

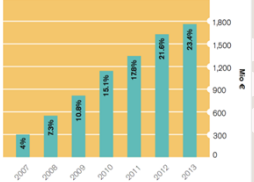


- more than 2.500 funded proposals, 58% of them StG
- in more than 480 different host institutions in 27 countries, total 4 billion
- but “excellence attracts excellence”: 50% of PIs in 50 institutions
- highly competitive: average success rate 12 %
- strong structuring effects: competition between European universities for first time ever, EU value added
- strengthening merit-based evaluation systems in Europe

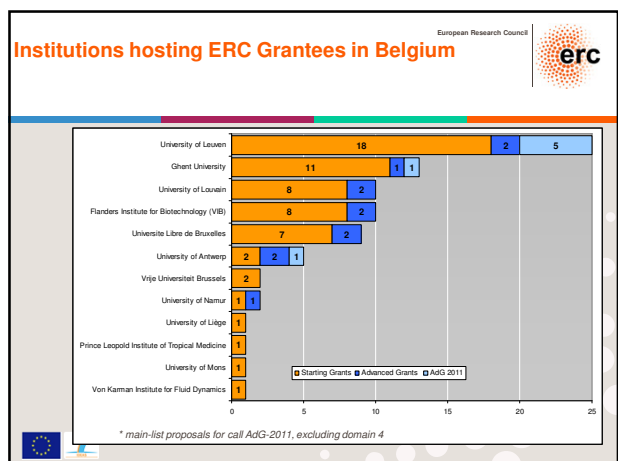
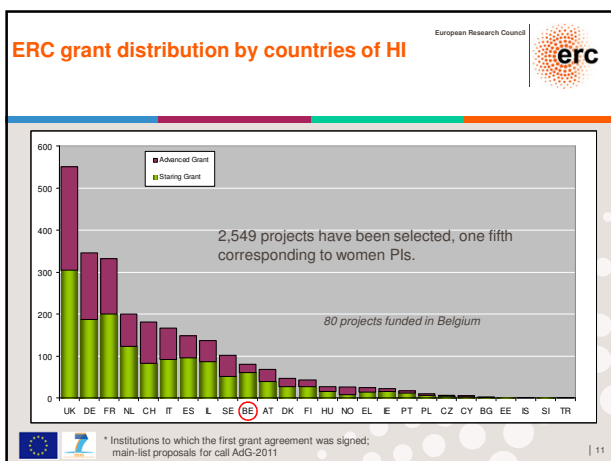
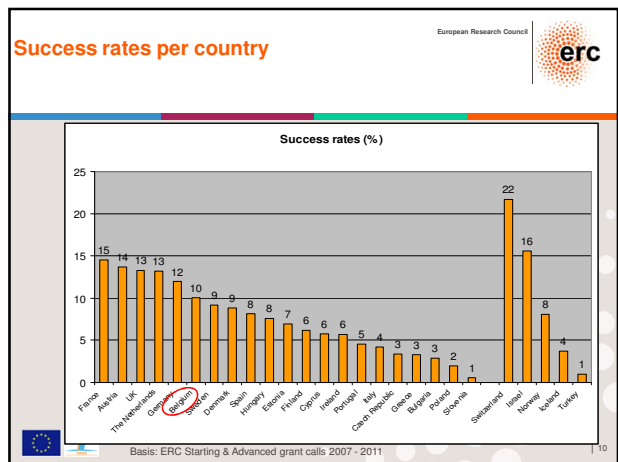
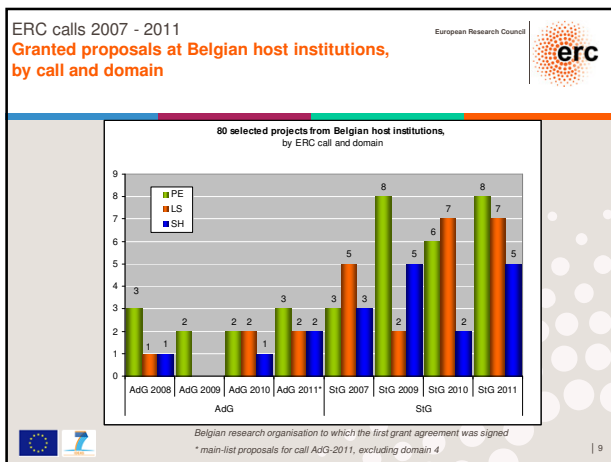
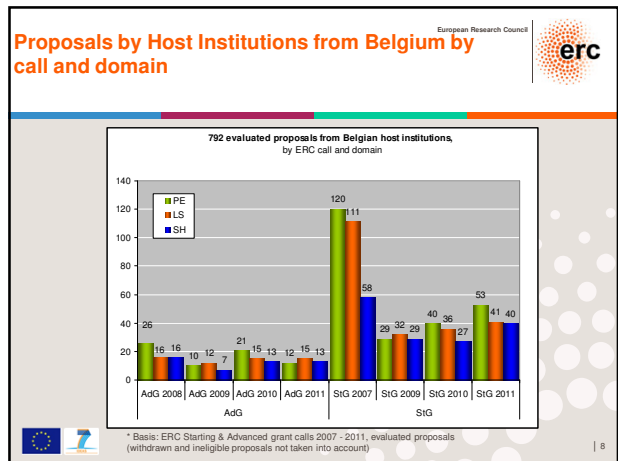
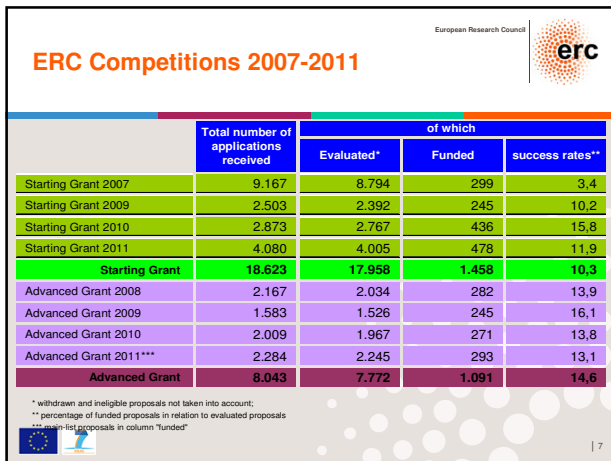
Budget and how it is being spent

ERCEA Administrative Budget	2010		2011	
Staff and related costs	19.006.953	65%	22.317.987	63%
IT & Telecom	4.440.022	15%	6.598.000	19%
Building	3.995.886	14%	4.615.000	13%
Audits	170.289	1%	670.000	2%
Communication	377.712	1%	482.000	1%
Other	1.118.761	4%	917.750	3%
	29.109.622	100%	35.600.737	100%

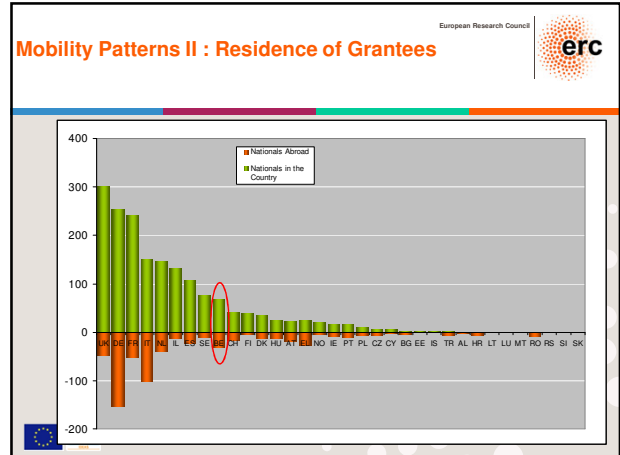
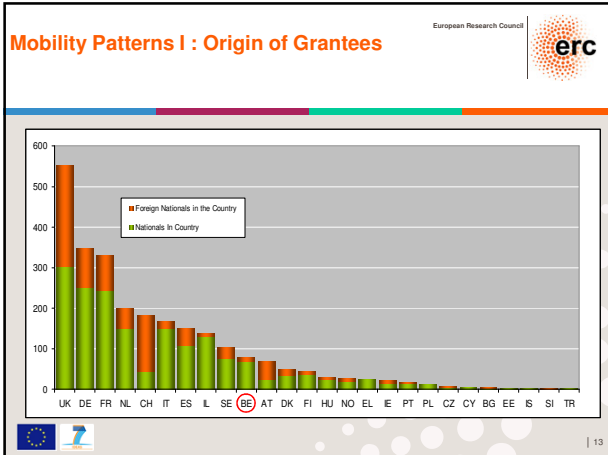
ERC budget: € 7.5 billion;
 Increase by € 250 M/year

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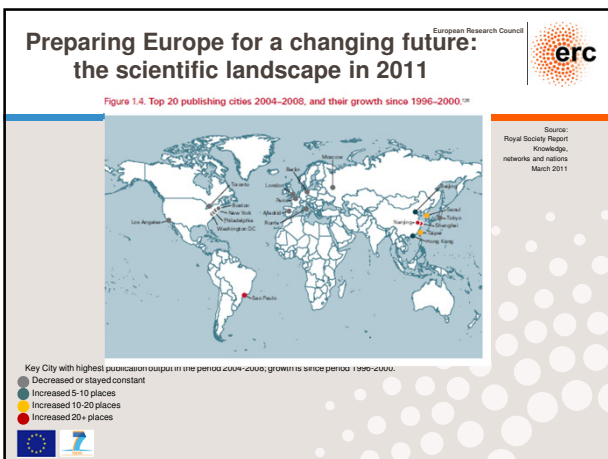


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- Challenges for Frontier Research: "Chance favours only the prepared mind" (L.Pasteur)**
1. ERC's role in the Innovation Union 2020
 2. Frontier research and innovation
 3. Widening participation
 4. Increasing the number of successful women scientists
 5. ERC's internationalization strategy
 6. Speeding up the discovery process: Synergy Grant
 7. Advanced Grant 2012
 8. Prospects for the future
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- 1. ERC's role in the Innovation Union 2020**
- HORIZON 2020 structure:
 - Excellence Science (ERC, FET, Marie Curie, Research Infrastructures)
 - Industrial leadership
 - Societal challenges
 - JRC
 - excellent science base: 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
 - "Support and investment of high-risk frontier research is the gateway to a technological future embedded in a shared cultural outlook. This is what the ERC has come to stand for" (Contribution from ERC Scientific Council to Green Paper)
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- 2. Frontier research and innovation: no juxtaposition**
- strong correlation between investment in basic research and innovation capability
 - all radical innovation is science-based
 - frontier research is highly valued also by industry (potential contributions to grand challenges, well-trained graduates)
 - all fields of science and scholarship; not only technological innovation, but also social innovation
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From frontier research to potential use: "Proof-of-Concept" scheme

- up to €150,000 per grant
- holders of an ERC grant with an idea substantially drawn from an ERC-funded project
- external expert to check that proof of concept plan is reasonable and acceptable - no scientific evaluation
- evaluation criteria:
 - innovation potential
 - quality of the proof of concept plan
 - budget
- a "package" to help move ideas and results to innovation

ERC Proof-of-Concept 2011

	2011-1	2011-2
Total applications	78	73
Evaluated*	73	67
Funded**	30	

* withdrawn and ineligible proposals not taken into account
** evaluation not yet completed for the second deadline

3. Widening participation: underperforming countries and regions

- correlation between overall R&D investment and ERC grants
- strengthening of merit-based evaluation systems
- continue with 'excellence only', but: "stairway to excellence"
- strengthen research infrastructures and their management combined with individual competitive grants under Cohesion policy
- ERC: soft measures

4. Increasing the number of successful women scientists

- ~1/5 of the successful candidates are women
 - 24% Starting Grant
 - 12% Advanced Grant
- proportion of submitted proposals by women is low
 - 29% Starting Grant
 - 14% Advanced Grant
- success rate of woman vs. men: equal or slightly better in PE and SH, but lower in LS

Gender Equality Plan 2007-2013

- example of steps to be taken

The ERC gender equality plan covers all phases of the ERC (awareness, submission, evaluation, evaluation, granting, alumni), based on **gender mainstreaming with focus kept on excellence.**

- Take an active role in the gender debate, gender equality networks and workshops.
- Make targeted visits to scientific meetings and workshops addressing gender topics, to inform about open ERC calls.
- Highlight women grantees as role models for potential ERC applicants.
- Monitor submission rates of women and men.
- Ensure ERC evaluation criteria encompass the situation of both women and men in research.
- Look at success rates of and granted amounts to women and men.
- Achieve a better gender balance in each ERC evaluation panel as compared to that panel's relevant scientific communities.
- Analyse relation between ERC grants and gender structures in research careers.

All ERC Advanced Grants: 14% of the applications from women, 12% of the grants to women

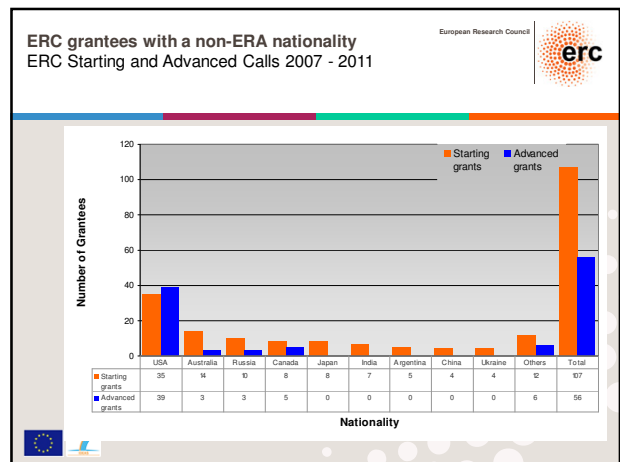
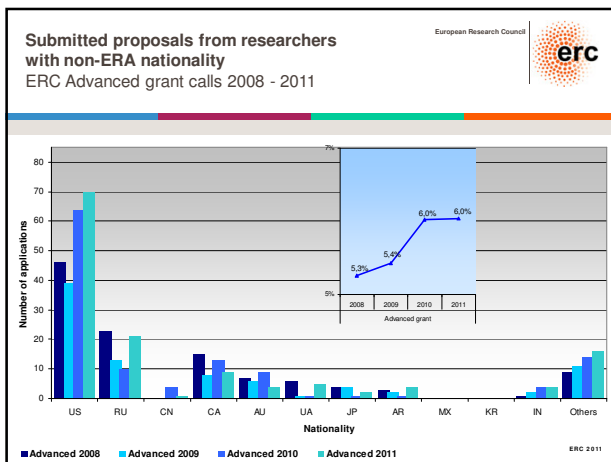
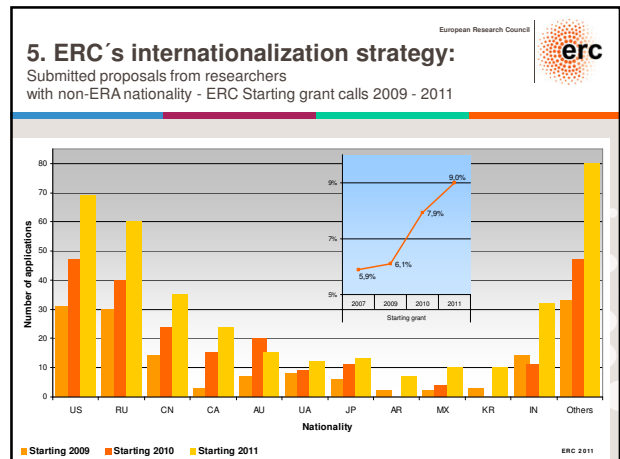
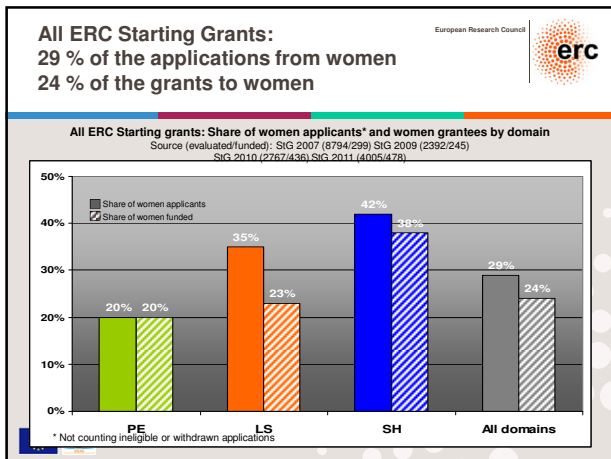
All ERC Advanced grants: Share of women applicants* and women grantees by domain

Source (evaluated/funded): AdG 2008 (2034/232) AdG 2009 (1526/245) AdG 2010 (1967/271) AdG 2011 (2245/293 main-list)

Domain	Share of women applicants	Share of women funded
PE	8%	7%
LS	17%	14%
SH	23%	22%
All domains	14%	12%

* Not counting ineligible or withdrawn applications

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6. Speeding up the discovery process: Synergy Grant

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- 2–4 researchers; complementary skills, knowledge & resources; to jointly address frontier research problems; beyond what the individual researcher could achieve alone
- Up to €15m for up to six years - €150m total budget 2012
- Based on ERC principles (no consortia, no networks):
 - bottom-up and risk-taking
 - driven by scientific demand
 - includes novel ways of working together “core time”
 - only one Host Institution

ERC Synergy Grant

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- For small groups of 2 to 4 excellent Principal Investigators (PIs) with complementary skills, knowledge and resources.
- Unique configuration of PIs to jointly identify and tackle exciting research problems aiming at breakthrough discoveries.

ERC Call Name	Call Budget	Grant Size	Call Publication	Submission Deadline
ERC Synergy Grant ERC-2012-SyG	€150M (10% total 2012 budget)	Max. €15M for up to six years	25 Oct 2011	25 Jan 2012

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ERC Synergy
- strong commitment required

- PIs must be strongly committed to the project and engage in a genuine collaboration.
- PIs may apply from any country, institution worldwide.
- But: 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

- Excellence will be the sole criterion of evaluation.
- 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.
- Projects expected to cover more than one discipline or research field, but not obligatory.




ERC Synergy
- pilot for 2012

- 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).

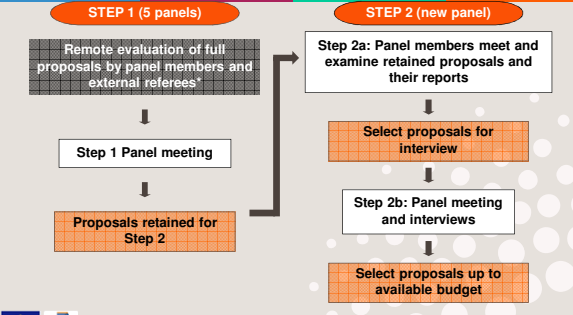


ERC Synergy
- Evaluation/1

- Single submission of a proposal followed by a two step peer review evaluation
- Evaluated by
 - ➔ Step 1: 5 panels
 - ➔ Step 2: 1 new panel
- The composition of the panels is not predefined: the 5 panels will be formed in a dynamic way after all proposals have been received.
- Proposals will be assessed by panel members and independent external experts.



ERC Synergy
- Evaluation/2



STEP 1 (5 panels)

Remote evaluation of full proposals by panel members and external referees*

Step 1 Panel meeting

Proposals retained for Step 2

STEP 2 (new panel)


Step 2a: Panel members meet and examine retained proposals and their reports

Select proposals for interview

Step 2b: Panel meeting and interviews

Select proposals up to available budget

*In the event of heavy oversubscription at step 1, panels may identify the less competitive applications by assessing the proposals on the basis of the extended synopsis and the Principal Investigators' track records and CVs.



7. Advanced Grant 2012

Objective: Advanced Grants encourage substantial advances at the frontier of knowledge by supporting excellent, leading advanced investigators to pursue ground breaking, high-risk/high gain research.

Call budget: approx. 680 million euro


Grant size: max 2.5 million euro for 5 years
- additional 1 million euro available to cover (a) eligible "start-up" costs for PIs moving from a third country to the EU or an associated country, and/or (b) the purchase of major equipment.

Deadlines


Physical Sciences & Engineering: 16 February 2012

Life Sciences: 14 March 2012

Social Sciences & Humanities: 11 April 2012



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Advanced Grant 2012 - evaluation

Excellence is the sole criterion of evaluation. It will be applied to the evaluation of both the Principal Investigator and the Research Project.

Single submission of the full proposal followed by a **two-step evaluation**.

Step 1: Section 1 of the proposal will be assessed.
Step 2: the complete version of the retained proposals will be assessed.

Outcome of evaluation


At the end of **step 1** applicants will be informed that their proposal:

- 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.

At the end of **step 2** applicants will be informed that their proposal:

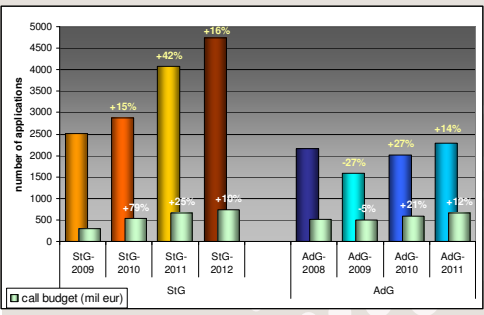
- A.** fully meets the ERC's excellence criterion and is recommended for funding if sufficient funds are available;
- B.** meets some but not all elements of the ERC's excellence criterion and will not be funded.

At the end of **both steps** applicants will be told the ranking range of their proposal out of the proposals evaluated by the panel.

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8. Prospects for the future

Rising applications



Year	Category	Number of Applications	Change (%)	Call Budget (mil. eur)
2009	StG	~2500	-	~250
2010	StG	~2800	+15%	~300
2011	StG	~4000	+42%	~400
2012	StG	~4800	+16%	~500
2008	AdG	~2200	-	~150
2009	AdG	~1800	-27%	~120
2010	AdG	~2000	+11%	~130
2011	AdG	~2400	+27%	~140

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“There is still plenty of room at the top”

- enormous talent throughout Europe: demand of undiminished quality continues to rise, especially for Starting Grants
- attract more excellent researchers from outside Europe
- fund more excellent women scientists
- build on past achievements, expand by experimenting with the two new schemes
 - budget proposal by EC for ERC under H2020:
15b in new prices (13b in old prices)
total 90,4 b (new) or 80b (old)

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