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The ERC and "Ideas"/FP7: New dimensions for university research in Europe

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Action underway: developments leading towards ERC

Action underway

"At least the European Commission seems to understand the nature and worrying scale of the problems. It has tried to do three things – one unsuccessfully, one with every possibility of success, and one that I cannot quite fathom", Lord Patten, *Nature,* 8.6.2000

Action underway

- it has tried (recommended by Sapir report) to reorient European Budget to what should be its priorities – competitiveness, growth and R&D – away from agricultural-led priorities set in the 50s

  …not much success

Action underway

- the establishment of the European Research Council

  …which is turning from a caterpillar into a butterfly

Action underway

- EIT proposal

  … not as yet clear what it will become

Nature of problems to be addressed by Europe

Nature of problems

- Lisbon strategy to become most competitive knowledge economy by 2010 will not succeed
- EU lagging behind US in R&D investment, especially investment from business

Nature of problems

- spending on higher education as % GDP lower in Europe (1,1% in F, D, UK compared to 2,6 % in US, with 1,2% public, 1,6% private funding)
- universities are undervalued and underfunded

Nature of problems

- European higher education system seen as having severe difficulties
- research basis under threat … but
- European paradox: excellent science – too little innovation
- many of best young researchers prefer to stay abroad

Wider context

Wider context

- state-funding for universities leveling off
- knowledge production goes global
- industry: no longer (basic) research in-house
- universities increasingly compete globally for top talent

Wider context

- R&D investment does not automatically mean more innovation
- but without investment no growth, no innovation
- knowledge economy means knowledge business: increasing competition

Developments within the EU

Developments within the EU

- European Treaty: EU to support research that increases competitiveness of European industry
- higher education system remains within competence of Member States
- establishment of ERA to overcome fragmentation of R&D systems

Towards the establishment of the ERC

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- every success has many fathers (occasionally mothers)…
- an idea whose time had come…
- engagement of the scientific community (ESF, ELSF, ISE and other initiatives)
- small countries in Northern Europe worried about basic research

Towards the establishment of the ERC

- Danish EU presidency conference in 2002: Can there be an ERC?
- Mayor Group and other High Level Groups support ERC through their recommendations
- personal engagement P.Busquin /DG A. Mitsos and J. Potocnik/J.M. Silva Rodriguez

Next decisive steps

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- ‘Ideas’ specific programme under FP7 adopted by Commission in September 2005 which will implement ERC, legal co-decision by Council of Ministers and EP obtained in 2006

Next decisive steps

- Budget 7, 46 billion Euro/7 years
- Scientific Council of ERC set up in June 2005 to prepare strategy and operative models of ERC during 2006

Structure of ERC

Structure of ERC

- Scientific Council with 22 members; found through 5 person independent Identification Committee, chaired by Lord Patten

Structure of ERC

- has mandate to decide on strategy and operation of ERC in an autonomous and (to the extent possible) ‘unbureaucratic’ way
- to be implemented by an Executive Agency (‘dedicated implementation structure)

Structure of ERC

- ScC will have an ERC Board, with Chair and Vice-Chairs of ScC, its Secretary General and Director of Executive Agency

Scientific Strategy of ERC

Scientific Strategy of ERC

- excellence as sole criteria
- all fields of research and scholarship, including SSH, (*Wissenschaft)*
- bottom-up approach - no thematic priorities
- ‘individual teams’, i.e. individual, independent investigators (PI)

What is ‘frontier research’?

What is ‘frontier research’?

- avoidance of over-used/obsolescent categories of ‘basic’ vs. ‘applied’ research
- Vannevar Bush, 1945 “Science, the Endless Frontier”
- ‘frontier’ suggests exploration of as yet unknown territory of knowledge

What is ‘frontier research’?

- curiosity-driven
- encourage risk-taking and inter- or multidisciplinary research
- reflects upon importance of links between frontier and the hinterland (or between summit and base camp)

ERC Starting Independent Researchers Grant

ERC Starting Independent Researchers Grant

- calls for proposals to be out towards end 2006 (with pre-registration)
- the only programme to be funded in 2007 with approx. 300 mill. Euro
- committed to ca. 200 independent investigators with grants of 300 K /year, up to five years

Eligibility for ERC Starting Grant

Eligibility for ERC Starting Grant

- located in (or moving to) EU or Associated States
- no more than 10 years since Ph.D. at submission deadline
- newly established in (or offered) independent position

ERC Advanced Investigator Grant

ERC Advanced Investigator Grant

- from ca. 250 M to > 1 bill. €/year (ca. 3 M €/proposal)
- estimate ca. 200 grants committed each year
- eligibility: established researchers, no age limit or nationality criterion

ERC funding schemes: how it works

ERC funding schemes: how it works

- electronic pre-registration
- two step procedure, first step: letter of intent, standardized info on
- person and short description of project
- second step: full proposal, letter from hosting institution

ERC funding schemes: how it works

- evaluation by expert panels with cross-disciplinary proposals encouraged and evaluated across panels
- for ERC Starting Grant: interviews of the finalists in Bruxelles

Peer review panel process

Peer review panel process

- coherence: covers all fields of sciences and humanities; no panel ‘ownership’, interdisciplinarity encouraged
- set new examples and standards by sending forceful signals for transformative changes in European research landscape

Peer review panel process

- panel structure should reflect a foreward-looking approach: openess to paradigm changes
- funding allocation is independent of panel structure (plus unallocated funds for proposals that bridge panels)

Peer review panel process

- each panel approx. ten members and high profile Chair
- panels will be made known to applicants, can indicate more than one panel
- ScC members involved to oversee process; responsible for ultimate decision

Peer review panel process

Three 'domains' of research and scholarship:

- SSH: 5 panels
- Life Sciences: 7 panels
- Physics and Engineering: 8 panels

Peer review panel structure

Peer review panel structure

- PE1 Mathematical foundations
- PE2 Fundamental constituents of matter
- PE3 Structures and reactions
- PE4 Material sciences and methods

Peer review panel structure

- PE5 Information and communication
- PE6 Engineering sciences
- PE7 Universe sciences
- PE8 Earth system science

Funding and reporting

Funding and reporting

- Principal investigator is grant recipient, grant is re-budgetable and portable
- funding up to five years
- host institution is grant receiver and responsible for fiscal reporting
- 20 % fixed indirect cost

Funding and reporting

- brief annual scientific progress report (no ‘deliverables’) and fiscal report
- more extended scientific report at end of funding period

What is different

What is different

- excellence of proposals must be matched by excellence of peer reviewers and peer review process
- excellence of proposal and of applicant are the only criteria
- more long-term funding and more sizable grants

What is different

- light on reporting, no deliverables
- process should be transparent with feed-back from review process to applicants
- European tradition and training in writing proposals must be strengthened

From individual to institutional excellence

New dimensions for university research in Europe

- improve research profile of universities
- more independence for junior faculty ('it matters what you say, not who says what')
- raise quality standards in Europe
- make (some) European universities as attractive as the best US universities