EVALUATING & MONITORING @ EUROPEAN RESEARCH COUNCIL (ERC)

IN SEARCH OF KPIS ON FRONTIER RESEARCH

Prof. Dr. Reinhilde Veugelers
KULeuven
Member of the Scientific Council ERC

Evaluation @ European Research Council

- ERC is a "young" agency (° 2007), but ambitious
- ERC-SC (with support of ERCEA & EC) to take monitoring/evaluation@ERC to a next step

ERC's ambitions

"the ERC aims at reinforcing excellence, dynamism and creativity in European research by funding investigator-driven projects of the highest quality at the frontiers of knowledge".

The ERC's research grants operate on a 'bottom-up' basis without predetermined priorities. Researchers from anywhere in the world can apply provided their host institution is established in a Member State or an Associated Country.

"its grants will help to bring about new and unpredictable scientific and technological discoveries - the kind that can form the basis of new industries, markets, and broader social innovations of the future".

Scientific excellence is the sole selection criterion. In particular, high risk/high gain pioneering proposals which go beyond the state of the art, address new and emerging fields of research, introduce unconventional, innovative approaches are encouraged.

ERC's instruments to accomplish its mission

- The ERC consists of an independent Scientific Council, responsible for scientific strategy.
- ERC's administrative arm: the European Research Council Executive Agency (ERCEA) (>300 people).
- The total budget allocated to the ERC from the FP7 for the period 2007 to 2013 is € 7.5 billion. FP8: +16%
- Three core grants schemes: starting, consolidator and advanced grants. Two pilots: synergy grants and Proof of Concept.

ERC's modus operandus to accomplish its mission

- The evaluation of ERC grant applications is conducted by peer review panels composed of renowned scientists and scholars selected by the ERC Scientific Council. The panels are assisted by remote referees.
- Reviewers are asked to evaluate the proposals on their ground breaking nature, their level of ambition to go beyond the state of the art and push the frontier.

Key Performance Indicators currently used for ERC

Strategic:

- EC-Horizon 2020:
  - Share of publications from ERC funds in top 1% highly cited
    - Target (0.8% to 1.6%)
- ERC-ERCEA
  - International prizes/awards of ERC grantees
  - Number of (top) publications (WoS) acknowledging ERC funding

Operational & financial

- ERCEA
  - Visibility (website visitors, mentions in press…)
  - Call management
  - Evaluation (time to grant, redress…
  - Financial management

ERC's early success

With its FP7 budget of 7.5 million euro (2007-2013)

- ERC has granted more than 3000 projects from more than 31000 applications in 10 calls. Each ERC grantee employs on average 4 other researchers.
- It hosts among its grantees 5 Nobel prizes and 3 Field Medallists. More than 5000 articles in high impact journals acknowledge ERC funding.
- But beyond the quantitative impact, the ERC is also widely acclaimed as an important agent of change.

Evaluating & monitoring @ ERC

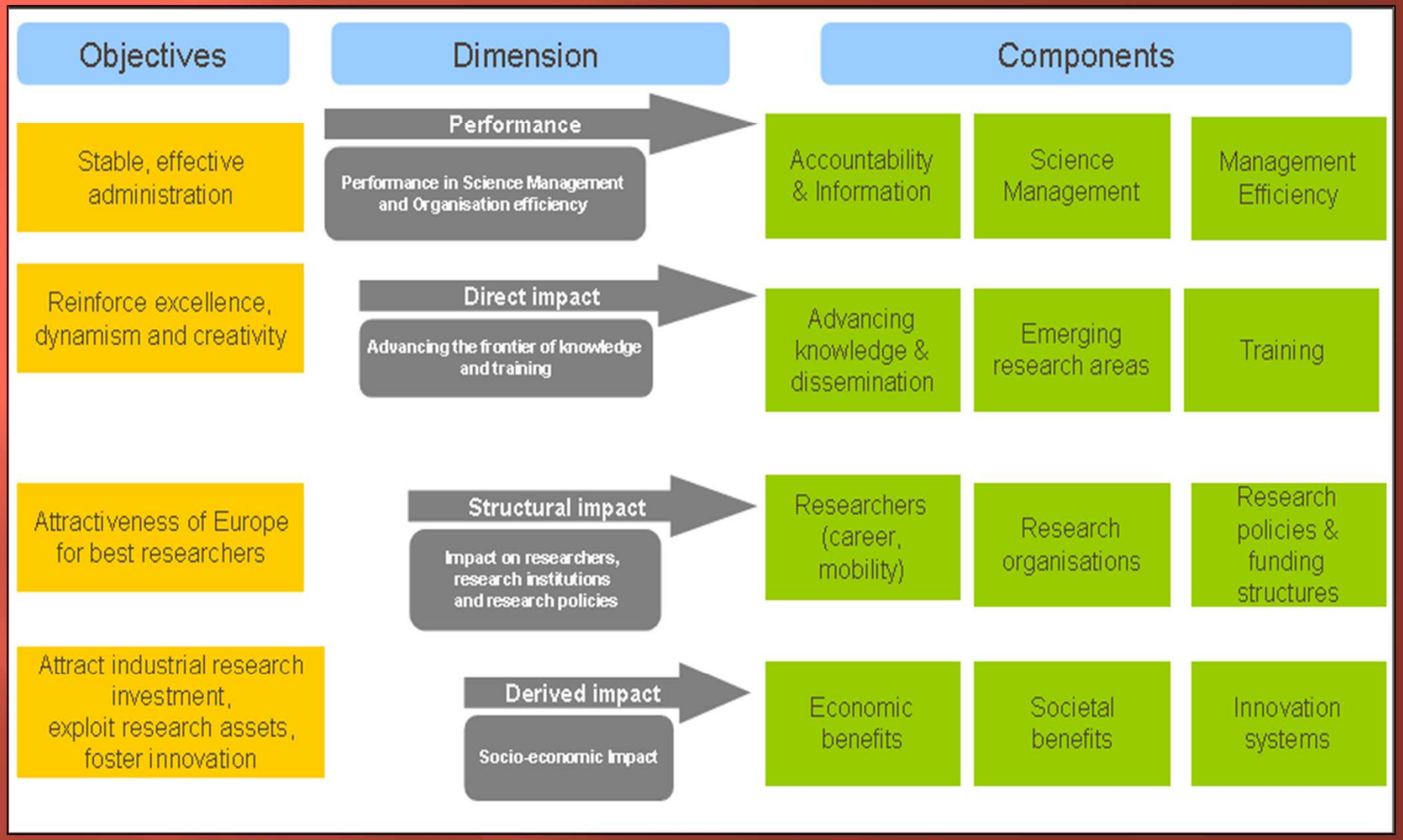
Beyond current practice: Develop a roadmap for monitoring/evaluating ERC's accomplishment of its mission to support ERC's short, medium and long-term policies

- KPIs tied to ERC Mission:
  - Advancing the Frontier of Research
    - Advancing knowledge, New research areas, Training; Dissemination
  - Structural impact on research
    - Researcher careers, institutes and research policy
  - Socio-Economic impact
    - Economic benefits, societal benefits, innovation system
  - Perform as a Model Organisation

Important for

- justifying to stakeholders its resources
- Attracting the best talents (grantees, councils, panels & referees, supporting personnel)
- improving the internal governance of the ERC

Figure 3: ERC Monitoring and Evaluation (M&E) Framework:



Evaluating & Monitoring @ ERC

Develop a roadmap for monitoring/evaluating ERC's accomplishment of its mission to support ERC's short, medium and long-term policies

How?

- Ex ante and ex post assessment
- Short-term (annual) (largerly quantitative), medium & longer term (periodic on selected themes/topics)
- Combining Internal and External Evaluation Expertise;
- Combining diverse methodologies (quantitative/qualitative);
- Combining external data (publications, patents..) with internal data (project (proposal) information)
- Commitment to experimentation in the assessment process itself
- Support of Innovative Research on research impact assessment

Implementation Issues

- Identification of frontier research
- External expertise through "Coordination and Support Action" instrument (CSA).
  - *Expert groups*
  - *Individual Experts* / dedicated projects
- Availability/access to data
  - Publications, patents, new ideas…. from the grants
  - Interim/final reports
  - Post-grant tracking
    - Career, outcomes, networks….
- ….

Identification of frontier research

Beyond current KPIs:

- KPI for ERC should be on whether it is the best mode to support frontier research
  - Does ERC select and support frontier research?
  - Does it do it better than the counterfactual? Which?

- Beyond excellence, assessing frontier research:
  - Develop new KPI to assess ex ante/ex post path breakers

Frontier research: fuzzy concept

- Excellence
- Big impact
- Wide impact
- Create new research fields
- Risky (big breakthroughs, high failure prob)
- Novel,
- New recombinations of know-how (existing pieces of know-how in new applications)
- Crossing disciplines
- …

Beyond highly cited publications…

Novelty, risk, interdisciplinarity

Ex ante and ex post evaluation

- Ex ante: how to select frontier research
  - Peer system's bias to select frontier research avoided at ERC?
    - Tools/indicators to help the selection of projects (track record and proposal of Pis)
    - Tools/indicators to assess the panel members, panel chairs, SC members
- Ex post: do selected projects deliver frontier contributions?
  - Proper counterfactual: added frontier results due to ERC funding
  - How to assess ex post failure from riskiness ?
  - From attribution to contribution