

# **ESF International workshop on peer review:**

***Broader Impact***

# Some issues for further reflection following the workshop of December 2010

# Various interpretations of impact

- “Sustained powerful influence”?
- Connecting knowledge production with knowledge use?
- ...

# Various domains where impact needs to be considered:

- Programme design
  - Overall programme logic
- Proposals/grant applications
  - Encouraging applicants to think beyond the proposal
  - Selecting the best (*'bang for buck'*)
- Project implementation
- Ex-post programme evaluation

*Peer review comes in here; but links to all domains*

# Impact on what?

- Scientific field?
- Across disciplines?
- Wider still (society, economy, sustainable development...)

# Where should impact be defined? And by who?

- Upstream, in the design and description of the calls for proposals?
- Allow applicants to describe the type of impact in the proposal?
- Combination of above?
- ...

# What should peer reviewers be looking for?

- The degree of impact that could be expected from the proposed research?
- The “logistics” being proposed to maximise that impact?
  - Communication, public engagement, user involvement, “productive interactions” etc
- Combination of above?

# What sort of peer review experts do we need?

- “Every scientific is a citizen”?
- Specialist expertise?



# Intellectual merit (“excellence”) vs. Impact

- Decorrelating the two
  - Can we? Should we?
- Relative importance
  - Set out weightings in advance?
  - Let reviewers judge relative weight?
  - Let programme managers decide afterwards?

# Broader impact and Horizon 2020

Alan Cross

# What is Horizon 2020

- Commission proposal for a 80 billion euro research and innovation funding programme (2014-20)
  - Adopted on 30 November 2011
- Part of proposals for next EU budget, complementing Structural Funds, education, etc.
- A core part of Europe 2020, Innovation Union & European Research Area:
  - **Responding to the economic crisis** to invest in future jobs and growth
  - **Addressing peoples' concerns** about their livelihoods, safety and environment.
  - **Strengthening the EU's global position** in research, innovation and technology

# What's new

- **A single programme** *bringing together three separate programmes/initiatives\**
- **More innovation**, *from research to retail, all forms of innovation*
- **Focus on societal challenges** *facing EU society, e.g. health, clean energy and transport*
- **Simplified access**, *for all companies, universities, institutes in all EU countries and beyond.*

*\*The 7th research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)*

# Three priorities:

**1 Excellent science**

**2 Industrial leadership**

**3 Societal challenges**

# Priority 1 Excellent science

## Why:

- World class science is the foundation of tomorrow's technologies, jobs and wellbeing
- Europe needs to develop, attract and retain research talent
- Researchers need access to the best infrastructures

# Proposed funding (million euro, 2014-20)

European Research Council <i>Frontier research by the best individual teams</i>	13 268
Future and Emerging Technologies <i>Collaborative research to open new fields of innovation</i>	3 100
Marie Curie actions* <i>Opportunities for training and career development</i>	5 752
Research infrastructures (including e-infrastructure) <i>Ensuring access to world-class facilities</i>	2 478

# Priority 2 Industrial leadership

## Why:

- Europe needs more innovative SMEs to create growth and jobs
- Strategic investments in key technologies (e.g. advanced manufacturing, micro-electronics) underpin innovation across existing and emerging sectors
- Europe needs to attract more private investment in research and innovation



# Proposed funding (million euro, 2014-20)

Leadership in enabling and industrial technologies ( <i>ICT, nanotechnologies, materials, biotechnology, manufacturing, space</i> )	13 781
Access to risk finance <i>Leveraging private finance and venture capital for research and innovation</i>	3 538
Innovation in SMEs <i>Fostering all forms of innovation in all types of SMEs</i>	619

# Priority 3 Societal challenges

## Why:

- EU policy objectives (climate, environment, energy, transport etc) cannot be achieved without innovation
- Breakthrough solutions come from multi-disciplinary collaborations, including social sciences & humanities
- Promising solutions need to be tested, demonstrated and scaled up

# Proposed funding (million euro, 2014-20)

Health, demographic change and wellbeing	8 033
Food security, sustainable agriculture, marine and maritime research & the bioeconomy	4 152
Secure, clean and efficient energy*	5 782
Smart, green and integrated transport	6 802
Climate action, resource efficiency and raw materials	3 160
Inclusive, innovative and secure societies	3 819

\*Additional €1 050m for nuclear safety and security from the Euratom Treaty activities (2014-18). Does not include ITER.

# Role of the EIT and JRC in Horizon 2020

## Three priorities to be supported by:

European Institute of Innovation and Technology (EIT) <i>Combining research, innovation &amp; training in Knowledge and Innovation Communities</i>	1 360 + 1 460*
Joint Research Centre (JRC)** <i>Providing a robust, evidence base for EU policies</i>	1 962

\* Second tranche pro rata from LEIT and Societal challenges (subject to review)

\*\*Additional €724 m for the JRC to be funded from the Euratom Treaty activities

# Simplification: summary

- **Single set of simpler and more coherent participation rules.**
- **New balance between trust and control.**
- Moving from several **funding rates** for different beneficiaries and activities to just two.
- Replacing the four methods to calculate overhead or "indirect costs" with a **single flat rate.**
- Major simplification under the **forthcoming financial regulation**
- **Successful applicants to get working more quickly:** reduction of average time to grant by 100 days (current average of around 350 days under FP7)

# Next steps

**From 30/11:** Parliament and Council negotiations on the basis of the Commission proposals

**Ongoing:** Parliament and Council negotiations on EU budget 2014-20 (including overall budget for Horizon 2020)

**Mid 2012:** Final calls under 7th Framework Programme for Research to bridge gap towards Horizon 2020

**By end 2013:** Adoption of legislative acts by Parliament and Council on Horizon 2020

**1/1/2014:** **Horizon 2020 starts; launch of first calls**

# Broader impact in proposal evaluation: *Experience of previous programmes*

- *A narrowing of the notion of impact from FP5 to FP7*
- *Sharper wording*
- *Dropped references to far-reaching objectives*
- *Wordy, non-scored criteria cause confusion*

# FP6 POTENTIAL IMPACT

- The extent to which the proposed project is suitably ambitious in terms of its strategic impact on **reinforcing competitiveness** (including that of SMEs) or on solving **societal problems**.
- The extent to which the **innovation-related activities** and **exploitation and/or dissemination** plans are adequate to ensure optimal use of the project results.
- The extent to which the proposal demonstrates a clear **added value** in carrying out the work at European level and takes account of research activities at national level and under European initiatives (e.g. Eureka).

## FP6 ADDITIONAL CRITERIA (not scored, only commented)

- Are there **gender issues** associated with the subject of the proposal? If so, have they been adequately taken into account?
- Have the applicants identified the potential **ethical and/or safety aspects** of the proposed research regarding its objectives, the methodology and the possible implications of the results?
- To what extent does the proposal demonstrate a readiness to **engage with actors beyond the research community and the public as a whole**, to help spread awareness and knowledge and to explore the wider societal implications of the proposed work?
- Have the **synergies with education** at all levels been clearly set out?
- If **third country participation** is envisaged in the proposal, is it well justified and the participation well integrated in the activities?



# FP7 Evaluation criteria (2006-2013)

## "Cooperation" & "Capacities"

### 1. S&T Quality (relevant to the topic of the call)

*Concept, objective, progress beyond state-of-art, work-plan*

### 2. Implementation

*Management*

*Individual participants and consortium as a*

*Allocation of resources*

**Example:.** Structure European epigenetic research...and generate the technology, knowledge and know-how to increase Europe's competitive position in exploiting the vast amount of epigenome data that will become available in the near future

### 3. Impact

*Contribution to "expected impacts" listed in work programme*

*Plans for dissemination/exploitation*

Including communication with the public at large

# FP7 “Frontier research” (ERC)

Quality of Principal investigator  
*research output/track record)*  
*(Intellectual capacity and creativity*

Quality of research project

*Ground-breaking*

***Potential impact***

*Methodology*

*High-gain/high -risk balance*

Research environment

*Contribution to the project*

*Other project participants*

In terms of new and important, scientific, technological or scholarly horizons;  
research environment and capabilities for frontier research in Europe.

# Horizon 2020

- A thorough ex-ante Impact Assessment
  - Evidence of benefits of public investment in R&I
  - Reasons for acting at EU level
  - Comparison of scenarios (BAU, national only, Horizon 2020 etc)
- Programme logic linking research and innovation with challenge-based approach
- Clear objectives and indicators

# European ‘added value’:

- To maximise impact, Horizon 2020 will focus on objectives and activities that cannot be efficiently undertaken by Member States acting alone.
  - Help structure European R&I funding landscape
  - Maintain critical mass in key areas
  - Continent-wide competition
  - Support trans-national mobility,
  - Take on high risk and long-term R&D,
  - Leverage additional public and private investments in research and innovation;
  - Contribute to the European Research Area
  - Accelerate the commercialisation and diffusion of innovations across the Single Market.
  - Support policy making

# Specific Objectives under ‘Societal Challenges’ *[extracts]*

- Improve the lifelong health and wellbeing of all
- Sufficient supplies of safe and high quality food [...], ecosystem services, competitive and low carbon supply chains.
- Reliable, sustainable and competitive energy system [...]
- European transport system that is resource-efficient, environmentally friendly, safe and seamless [...]
- Achieve a resource efficient and climate change resilient economy and a sustainable supply of raw materials [...]
- Inclusive, innovative and secure European societies [...]

# Additional performance indicators

## (examples):

- R&D intensity target (3 % of GDP)
- The Europe 2020 innovation headline indicator
- Publications in peer-reviewed high impact journals in the area of the different Societal Challenges
- Share of publications from ERC funded projects which are among the top 1 %
- Patent applications in the area of the Societal Challenges
- EU legislation referring to activities supported under different Societal Challenges

# “Award” criteria

- The proposals submitted shall be evaluated on the basis of the following award criteria:
  - (a) excellence;
  - (b) impact;
  - (c) quality and efficiency of the implementation.
- The sole criterion of excellence shall apply for proposals for ERC frontier research

# Thank you for your attention!

Find out more:

[www.ec.europa.eu/research/horizon2020](http://www.ec.europa.eu/research/horizon2020)