

EPSRC, Engineering & Excellence With Impact



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EPSRC

Engineering and Physical Sciences
Research Council



EPSRC Research & Training

- What does Government expect?
- EPSRC strategy, priorities and performance
- Economic Impact

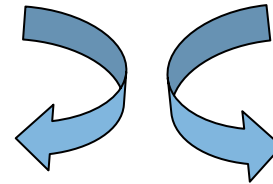
Government's Science and Innovation Investment Framework 2004-2014

Aim (10 Year Framework)

- *Making the UK the most attractive place for science and innovation*

Public Service Agreement (PSA) Target:

- *improve the relative international performance of the UK research base ...*
- *improve the overall innovation performance of the UK economy....*



Output 1

A healthy UK science and engineering base

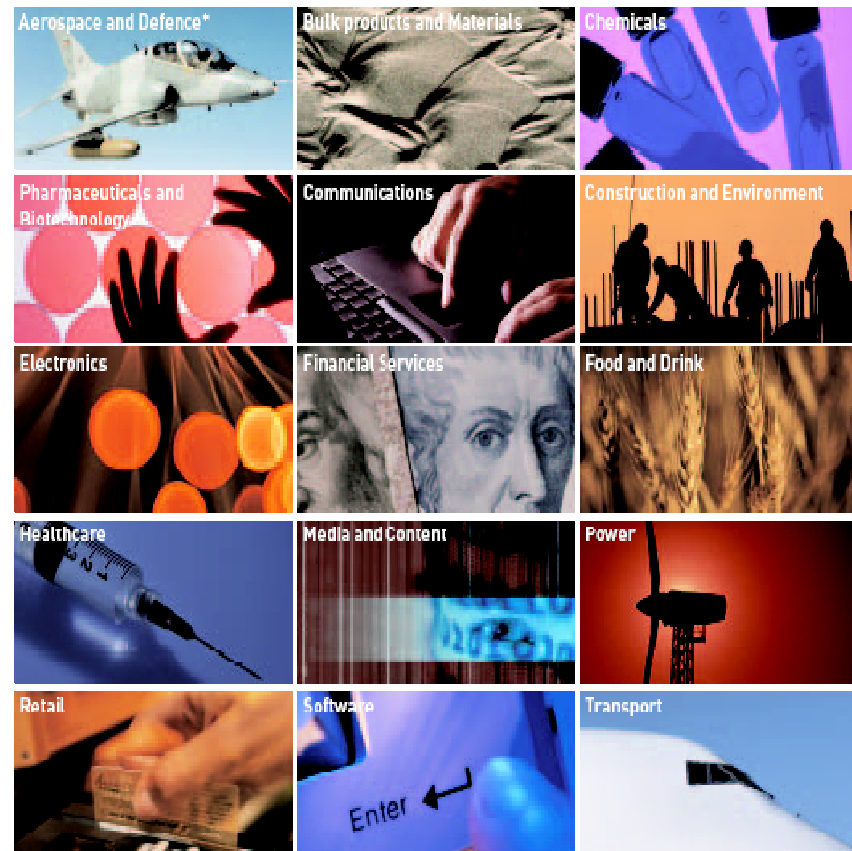
Output 2

Better Exploitation

Excellence with Impact

Table 2.1: PSA target metrics for the UK research base⁴

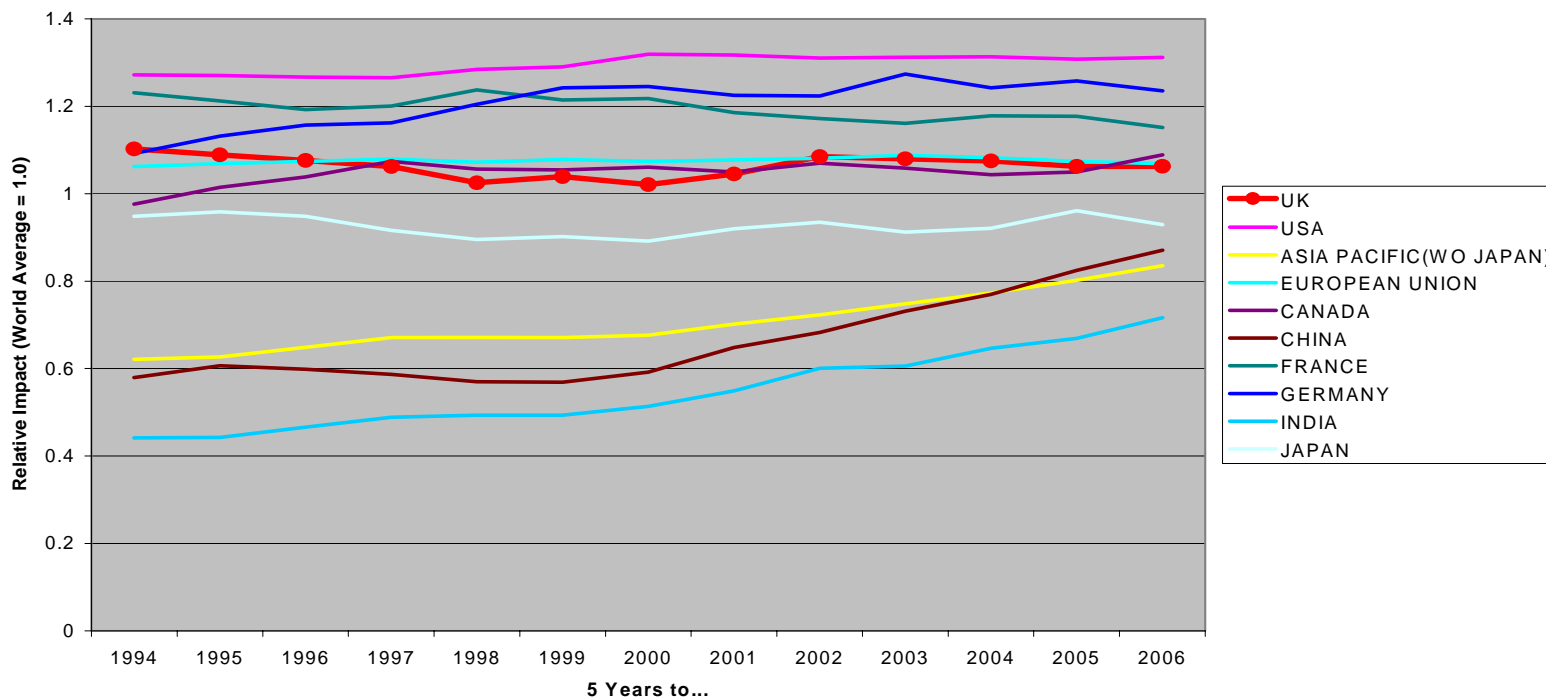
Research field	World ranking	Trend 96-05	Highlights
Bioscience	2	↔	<ul style="list-style-type: none"> UK increasing overall citation and highly cited share. UK very high on citation "productivity". Agile research base – second in seven out of ten broad research disciplines
Business	2	↑	
Clinical	2	↑	
Environmental sciences	2	↔	
Humanities	2	↔	
Pre-clinical	2	↔	
Social sciences	3	↑	
Mathematics	4	↔	
Physical sciences	4	↑	
Engineering	4	↔	



Impact of Engineering Research



Relative Impact in Engineering: UK and selected countries (World Average = 1.0)
(Citations/publication relative to world average; 5-year rolling windows)





EPSRC Vision

For the UK to be the most dynamic and stimulating environment in which to engage in research and innovation.

Which requires **excellence** with **impact**

EPSRC

Engineering and Physical Sciences
Research Council

EPSRC Strategic Plan 2006

Outcomes to achieve Excellence

- Adventurous & Creative Research and Research Processes including “Transformative Research”
- Talented Researchers at every stage of their career
- Two-way Knowledge Exchange between the research base and industry through Collaboration
- Multi-disciplinary Research
- Shared Vision and Tomorrow’s Challenges Addressed
- Global Economic Competitiveness
- World Leading Researchers

Measuring Excellence

- Project assessment using expert peer review
- Understanding the current portfolio: Portfolio Reviews examining the current portfolio for strengths, weaknesses, gaps and opportunities
 - complete set due to be published Spring 2009
 - intended to encourage dialogue about future strategy
- Theme Days of cross-disciplinary areas e.g. People & Systems January 2009 looking especially at quality and impact of current and recently completed research
- International Reviews looking at perceptions of the UK standing and the research environment

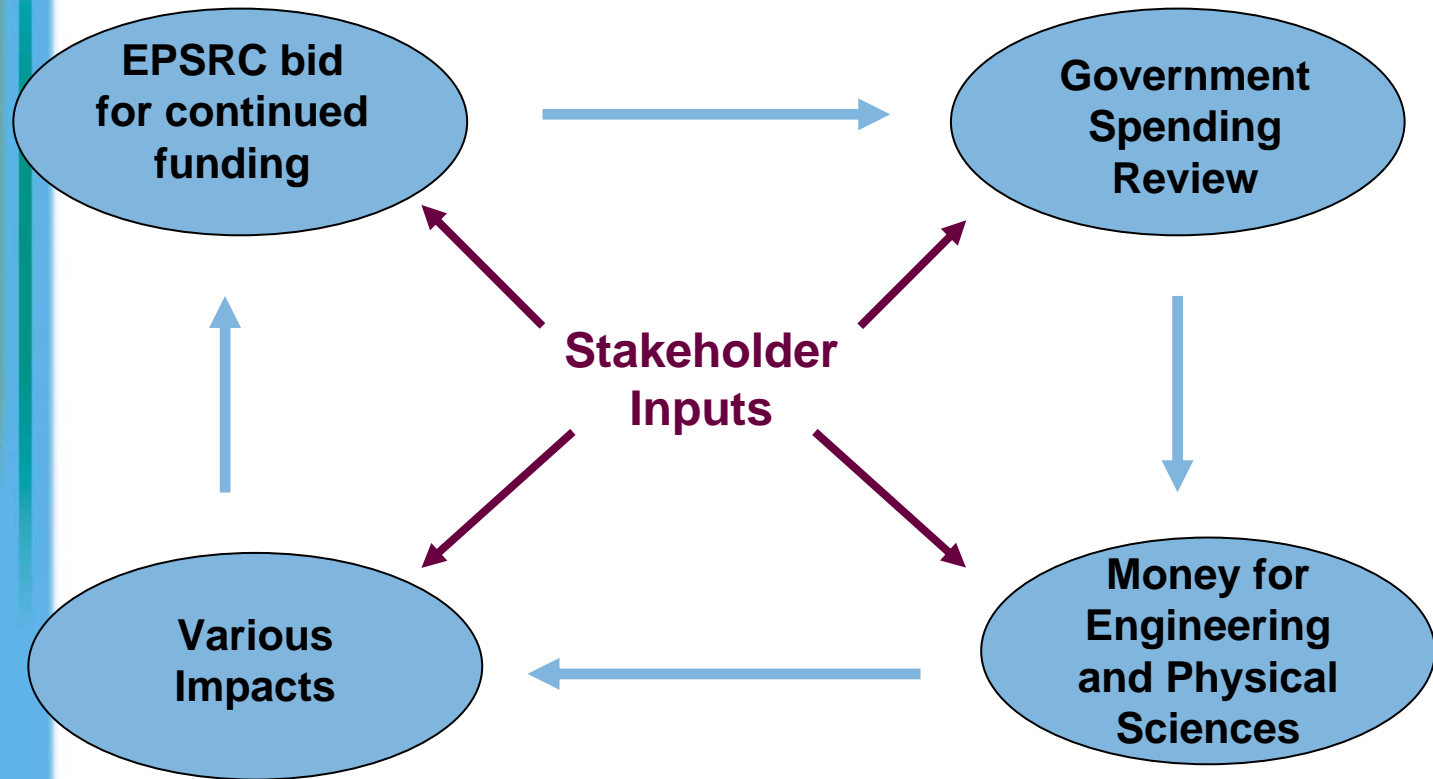
Peer Review is at the heart of all funding decisions and an integral part of EPSRC monitoring and evaluation. Increasing the involvement of users will help assessment of potential impact.

Key strategic mechanisms to support & grow excellence in engineering

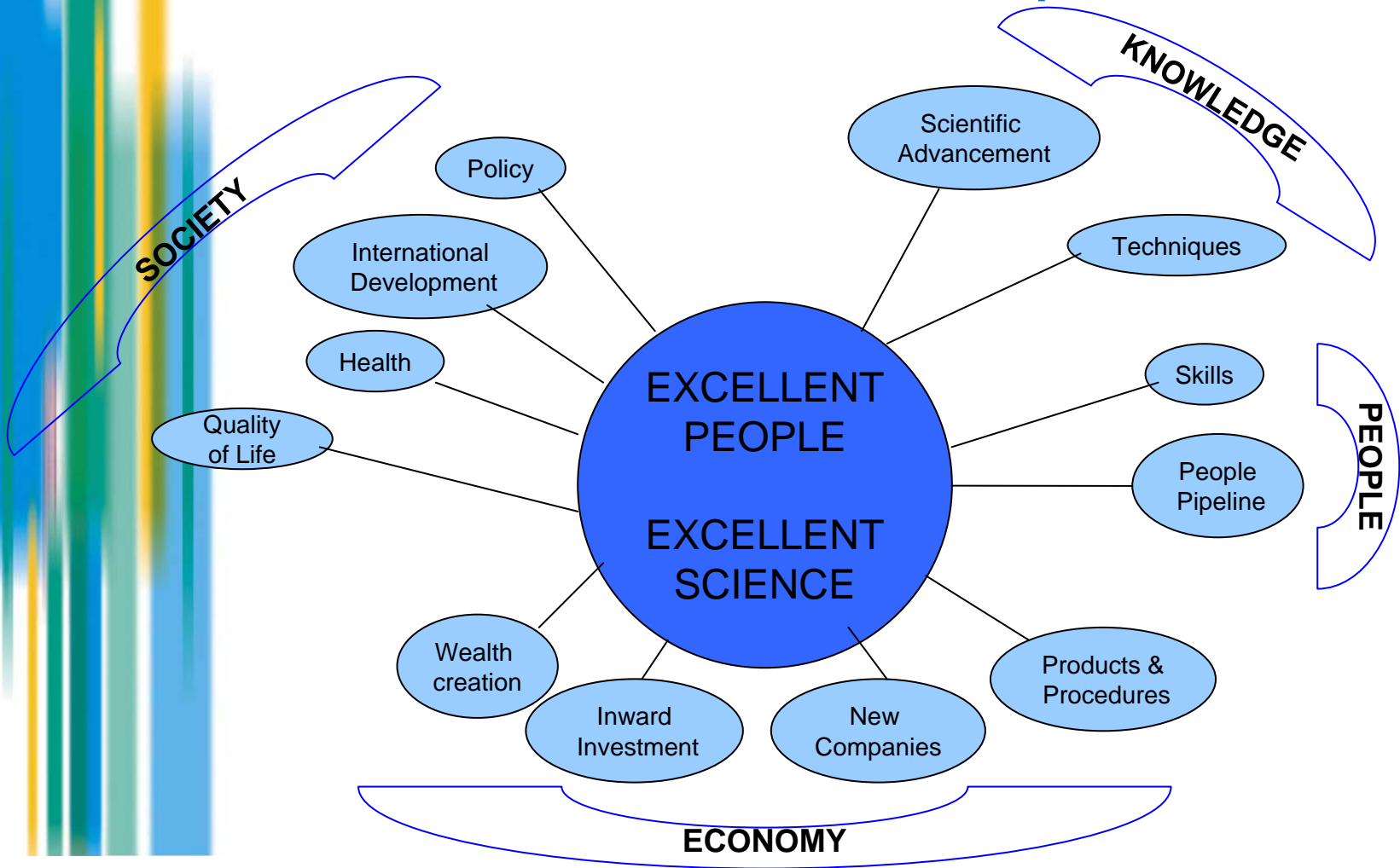
Signposting in responsive mode	Encouraging emerging and under-represented areas	Water engineering Synthetic Biology
Platform grants	Stability & flexibility for key groups	Track record and future potential
Programme Grants	Long term support for world leading groups	Target of 30% for longer, larger grants
First Grants	Support for early career researchers	Cap re-introduced January 2009
Challenging Engineering	Support for future research leaders	Vision a key assessment criterion



Economic Impact – why?



What influences Economic Impact?



Warry Report: Excellence With Impact

Research Councils have an obligation to the public to ensure greater economic, social and cultural impact arising from publicly funded research

Aim is to embed economic impact within the strategies, delivery and organization of the Research Council:

- Demonstrate impact via case studies
- Encourage interaction with users
- Partner with the Technology Strategy Board
- Improve Knowledge Transfer



Economic Impact Reporting Framework

1. Overall economic impacts
2. Investment in the research base and innovation
- 3.a Knowledge generation (stock of publicly available knowledge)
- 3.b Knowledge generation (human capital)
4. Framework conditions (public engagement)
5. Framework conditions (financial sustainability)
6. Knowledge exchange efficiency

Economic Base Line

Encouraging collaboration: Some 2,300 user organisations collaborated on research grants and around 1,750 PhD students were engaged on collaborative training projects; over £90 million in resources was committed by users in support of new research grants.

Excellence in research: The UK maintained its high ranking in terms of Citation Impact among the G8 nations in Physical Sciences (1st), Mathematics (2nd) and Engineering (3rd).

Providing skilled scientists and engineers: EPSRC supported an estimated 8,240 PhD students; almost half of PhD graduates entered either business or the public sector within a year of finishing their studentships.

Fostering international collaboration: the proportion of grants reporting at least one publication with an international co-author has increased from 51% to 56% over the past two years.

Making the Case for Economic Impact - Going Forward

- From April 2009, all Research Councils changed their application form and case for support requirements to address the issues of the potential economic impact of research projects
- The aim is to support researchers in exploiting the potential benefit of their work and must demonstrate these potential impacts as part of the ongoing case for sustained science and engineering funding
- Not about changing the type of research but encouraging all applicants to think about the potential impact at the time of planning it