

# GOVERNMENT REVIEW OF THE BALANCE OF COMPETENCES BETWEEN THE UNITED KINGDOM AND THE EUROPEAN UNION: RESEARCH AND DEVELOPMENT

## RESEARCH COUNCILS UK (RCUK) RESPONSE

### Introduction

1. Research Councils UK (RCUK) is a strategic partnership of the UK's seven Research Councils which annually invest around £3bn in research. We support excellent research, as judged by peer review, which has an impact on the growth, prosperity and wellbeing of the UK. To maintain the UK's global research position we offer a diverse range of funding opportunities, foster international collaborations and provide access to the best facilities and infrastructure around the world. We also support the training and career development of researchers and work with them to inspire young people and engage the wider public with research. To maximise the impact of research on economic growth and societal wellbeing we work in partnership with other research funders including the Technology Strategy Board, the UK Higher Education Funding Councils, business, government, and charitable organisations. Further details are available at [www.rcuk.ac.uk](http://www.rcuk.ac.uk).
2. This evidence is submitted by RCUK and represents its independent views. The submission is made on behalf of the following Councils:
  - Arts and Humanities Research Council (AHRC)
  - Biotechnology and Biological Sciences Research Council (BBSRC)
  - Engineering and Physical Sciences Research Council (EPSRC)
  - Economic and Social Research Council (ESRC)
  - Medical Research Council (MRC)
  - Natural Environment Research Council (NERC)
  - Science and Technology Facilities Council (STFC)

### Impact on the national interest

#### **Q1. Where has EU action had a positive impact for the UK on research, technological development, innovation or space? What evidence is there for this? Has EU action encouraged national action in any areas?**

3. The European Framework Programmes for research and innovation play a vital role in supporting research and collaboration across Europe. This is particularly important in the current economic climate where national funding is increasingly difficult to obtain. Having access to additional funding streams which sit alongside national support is especially welcome for being able to fund collaborative research activities with teams drawn from across Europe. It is crucial that substantial research investment within Europe continues, both at an EU and national level, in order to stimulate innovation and competitiveness, and that we continue to make progress across Europe to harmonise and strengthen the European research environment and remove barriers to transnational research.
4. EU research and innovation funding is important for the UK: this funding source widens the opportunities for UK researchers to engage in globally competitive collaborative research, strengthens links and builds partnerships. The UK has an excellent research base which is well recognized for its quality and, as a result, is highly competitive at the EU level and is particularly successful in receiving funding from the Framework Programmes. It is vital that we continue to invest in the UK research base, particularly as other nations are investing heavily in research, to

ensure that we continue to be competitive within the framework programme as a world-class partner of choice. To date the UK has received €5025m, 15.2% of total Framework Programme 7 (FP7) funding, second only to Germany. As of March 2013, the UK was the top recipient of funding from the FP7 health theme, receiving €652.75m.<sup>1</sup> It is also worth noting that the UK is involved in more projects than either France or Germany, 40.7% of all grant agreements in FP7 to date. The UK is a significant beneficiary of funding through all schemes, including the European Research Council (ERC) and Marie Curie Actions:

- a. The ERC provides grants to excellent researchers who, regardless of nationality, are carrying out their research in an EU Member State. The grants support bottom-up, cutting edge research and do not require grant holders to collaborate with researchers in other Member States. The UK does spectacularly well and over the course of FP7 ERC grants based at UK host institutions have received around €1.4bn in funding, the highest amount of funding going to any one country across the whole programme (Germany was second with around €862mn). To put this in context, total funding for the ERC in FP7 was around €7.5bn, meaning that the UK has received almost 20% of the total funding available. ERC funding also plays a part in supporting the UK's ongoing ambition to attract outstanding researchers from outside the EU: out of 768 ERC grants currently in the UK, 81 of those are held by researchers from outside the European Research Area.
  - b. The UK also does well out of the Marie Curie Actions, which focus on mobility and training, and is seen as an attractive host country for the scheme. During FP7 the UK has received over €790m in Marie Curie funding, by far the highest amount of all 72 countries benefiting from this funding stream (Germany is second with around €432m) The UK has hosted 2953 projects (Germany is second with 1588), attracting 382 incoming fellows from outside the Member States and Associated Countries (France is second with 99) and 1170 incoming fellows from the Members States and Associated Countries (France is second with 363). Overall the number of people coming to the UK on Marie Curie funding in FP7 has been 3604. This bottom-up funding, where researchers can apply for fellowships to go anywhere in the world, or come to the UK from anywhere, is highly successful in supporting valuable knowledge exchange and building international collaboration. There are some challenges associated with this programme; these are addressed in our response to the following section.
5. When considering the positive impact of EU action on research and innovation, it is worth noting that Associated Countries with active research bases, for example Norway, Israel and Switzerland, pay to participate in EU framework programmes for research and innovation, demonstrating the real value that they see arising from EU collaboration in research. While there are many collaborations across the EU which take place outside the Framework Programme, the provision of a common framework for research collaboration which the EU offers can be immensely beneficial, especially in new areas so that every collaboration does not have to be a new legal arrangement.
  6. The UK Research Councils are committed to supporting excellent research and are therefore fully supportive of the focus on excellence in the Framework Programmes. It is important that excellent research and innovation continues to be the highest priority to ensure that Europe is able to maintain its reputation as a world class research destination. We also believe that it is vital for activities at EU level to focus on areas of high 'European added value': building upon and enhancing actions taken

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<sup>1</sup> Based on signed grant agreements as of March 2013.

by individual Member States. This is often the case for research in areas which require a large population base, for example research into rare diseases and large epidemiological studies, research requiring international validation, or when infrastructure is required of a scale or cost which could not be supported by any Member State individually.

7. Extended and consolidated pan-European scientific networks underpin economic and other collaborations, to the advantage of UK research institutions and their business partners, thereby underpinning export growth within the Single Market. Inter-connectivity of UK scientific institutions and their European counterparts brings benefits to businesses operating across several member states or exporting to EU28 markets. Industrial partners with a significant UK base have retained this through the easy access to European partners via the collaborative networks built and maintained via EU research projects and programmes. Broader access to larger international networks where there are global fora which set policy and agreements, particularly where the EU is the negotiator, can be extremely beneficial in terms of addressing issues which require global collaboration and have the potential to leverage greater funding and focus.
8. The EU research Framework Programmes, through successive cycles, have played an important role in building European research infrastructure activity, starting from support for networking existing investments with the aim of ensuring transnational European benefit derives from national facilities. Through the European Strategy Forum on Research Infrastructures (ESFRI) Member States have identified facilities required at European level across the whole research base. Work is ongoing to produce a single proposal for each facility, the aim being to ensure that national decision making and investment is coordinated. Excellence and strategic priority will determine the UK's involvement in these activities. However, it is worth noting that e-infrastructure lies under DG Connect, not DG RTD, and this can be a challenge as there can be a lack of coordination between the two.

#### **Case study: ESFRI**

An example of an ESFRI project is the INSTRUCT Consortium, a structural biology hub providing pan-European distributed infrastructure, which was established to widen access to state-of-the-art research facilities and expertise across Europe to support excellent, collaborative science. The UK leads on this project, giving it a strong voice in influencing developments in this field across the European Research Area. INSTRUCT is one of ten European biomedical science research infrastructure projects funded as part of FP7 and is part of ESFRI. Eight countries (Czech Republic, France, Germany, Israel, Italy, The Netherlands, Portugal and the United Kingdom) have currently subscribed to INSTRUCT. The consortium provides academic and commercial scientists across Europe with access to some of the most advanced technology in the world, through the collaboration of 15 of Europe's leading structural biology research institutes, each of which provide up to 20% of their resources for access. INSTRUCT also provides scientific expertise and pioneering training, and contributes to the strategic leadership of structural biology in Europe by promoting an integrated approach to technology and methodologies.

#### **Case study: EISCAT**

EISCAT (European Incoherent SCATter) is an international organisation for research on the middle and upper atmosphere and ionosphere using incoherent scatter radars (ISRs). The UK EISCAT group is part of the FP7 project, EISCAT-3D, which is developing a proposal

for the next generation of incoherent scatter radars, which will be included on the ESFRI roadmap. Its members are Finland, France, Germany, Japan, Norway, Sweden, China and the UK. In this case, the UK provides an annual subscription for access to the multimillion pound facilities and participates through the UK EISCAT Support Group. EISCAT operates three ISRs on mainland Norway and Svalbard that measure profiles of density, temperature and ion velocity, between about 50km and more than 1000 km altitude to study the interaction between the Sun and the Earth as revealed by disturbances in the magnetosphere and the ionised parts of the atmosphere. Participation in EISCAT provides the UK with access to a facility providing key observations of the upper atmosphere that it could not afford acting alone and facilitates collaborations with other centres of excellence, enabling support of high quality research (87 publications in the last five years) in space weather, a strategic priority for the UK.

9. In addition to its participation in ESFRI, the UK is the most successful participant in the EU Research Infrastructure Programme, in terms of both the number of successful proposals and in terms of the amount of funding brought to the UK. The UK is often the coordinator of these projects typically 'Integrated Infrastructure Initiatives' which link European national facilities. Other activities funded under this Programme and hosted by the UK include DANTE, the joint European organisation that manages the European computer backbone GEANT which links the UK's academic network JANET to equivalents in Europe and the world.
10. In addition to coordinating Member State actions around infrastructure, support provided through the Framework Programmes enables Member States to identify areas of common interest and importance and coordinate national research activities. Such coordinated activities are welcomed as they can lead to enhancement of national activities and minimisation of duplication: a particularly important aim when resources are increasingly difficult to obtain. Key collaborative activities include the Commission-developed concept of Joint Programming Initiatives (JPIs) and ERA-NETs. These are discussed further in our response to question 3.
11. In 2005 the European Charter for Researchers and Code of Conduct for their Recruitment was launched and was the subject of a conference in London as part of the UK Presidency of the EU. Since then, the European Commission and Member States have been seeking to support the implementation of the Charter and Code. The introduction of and adherence to an EU-wide Charter has been highly beneficial for researchers moving within the ERA, who are now able to expect that certain harmonised principles supporting positive career development are practised across all Member States.
12. A UK-level gap analysis was undertaken in 2006 which mapped UK legislation, policy and practice against the Charter and Code. In 2008 the Concordat to Support the Career Development of Researchers<sup>2</sup> was launched as an agreement between funders and employers of researchers in the UK. This, combined with the Quality Assurance Agency audit of doctoral programmes, effectively transposes the Charter and Code principles into the UK context.
13. In 2010, Vitae agreed with the European Commission a UK-wide process which enables UK higher education institutions (HEIs) to gain the European Commission's HR Excellence in Research Award. This acknowledges institutions' alignment with the principles of the European Charter for Researchers and Code of Conduct for their Recruitment. The UK process incorporates both the QAA Quality Code for Research Degree Programmes and the Concordat to Support the Career Development of

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<sup>2</sup> [www.vitae.ac.uk/concordat](http://www.vitae.ac.uk/concordat)

Researchers to enable institutions that have published Concordat implementation plans to gain the HR Excellence in Research Award. The UK approach includes on-going national evaluation and benchmarking.

14. Euraxess, a unique European initiative providing access to a complete range of information and support services to researchers wishing to pursue their research careers in Europe, has had a positive influence in the UK. Euraxess UK, led by the British Council through support from BIS, is gaining momentum and support in the UK and will contain links to relevant funders, careers information from Vitae and subject specific web sites. It benefits researchers by providing a 'one-stop shop' for information about research careers across the EU, thereby supporting mobility.
15. A report examining the UK legislation on fixed-term contracts following EU regulations, and how this is being interpreted within institutions, was published in July 2010. Based on case studies, there was evidence that although institutions have clear policies on terms and conditions of employment of researchers, understanding and implementation on the ground was variable. It highlights uncertainty amongst researchers about the nature of open-ended employment and the likelihood of redundancy: even with open-ended contracts the link between short-term funding and the likely duration of appointments continues. The report suggests that where there is a commitment from senior managers and institutional policy, HR and departmental management to work together there is a strong chance of developing systems that better respond to the needs of the researchers as well as the institution.

**Q2. Where has EU action had a negative impact for the UK in these fields? What evidence is there for this? Has EU action prevented potentially useful national action in any areas?**

16. European legislation and policy can have far-reaching consequences and, where European legislation is developed which does not principally concern research, it is vital that potential implications and unintended impacts for research and innovation are fully considered and understood prior to adoption so that action can be taken if necessary. This must take place at all stages as policies are designed, developed and amended throughout the legislative process, in order to ensure that European research and innovation, and in turn European competitiveness, is not stifled. The EU Data Protection Directive is one current example of legislation which is not focused on research but has the potential to have significant negative implications on research; this is examined further in our response to question 7.
17. Wide-reaching consultation with Member States and expert communities is vital as EU legislation is developed and the examples below demonstrate where Member State and expert community input to proposed legislation has significantly reduced/removed potential risks to research and innovation:
  - a. The EU Animals Directive 2010/63/EU has significant implications for the UK bioscience sector. The UK has a reputation for the highest standards in animal research and, using this experience and expertise, the UK was able to help shape this Directive to raise standards in animal welfare across Europe and prioritise the application of the 3Rs (reduction, refinement and replacement of animals in research) whilst ensuring that essential animal research was not unnecessarily hindered by excessive broadening of the scope of the Directive and by bureaucracy that does not directly promote animal welfare.
  - b. There were significant concerns voiced that the original proposal for EU Physical Agents Directive 2004/40/EC would restrict the use of MRI for research and clinical diagnosis. In response to these concerns, the EC postponed implementation of the Directive and have since issued a revised Directive which

includes an exemption for MRI. Workers using MRI remain protected by existing safety regulations. This revised Directive has avoided potentially negative impacts on research.

18. As European legislation and policy is developed, consideration of the correct legislative instrument is crucial and an approach must be taken which is proportionate and risk-based, avoiding administrative burden where possible. In all instances, clarity is also crucial: providing clear and detailed guidance in order to ensure successful consistent implementation across Member States. The importance of these points is clearly demonstrated by the Clinical Trials Directive, which was brought in to regulate clinical trials of investigational medicinal products in Europe. This Directive was widely considered to have acted as a disincentive to initiate studies, with key criticisms including divergent application across Member States leading to difficulties in performing multinational clinical trials, a significant increase in administrative burden, and a lack of differentiation in approach for well-known and completely new drugs. The Commission, seeking to address these issues, adopted the Clinical Trials Regulation in July 2012, which is broadly viewed as a positive step - the MRC endorsed the following joint statement:  
<http://www.acmedsci.ac.uk/p47prid118.html> This issue highlights the importance of employing the correct legislative instrument, and the very real potential for inconsistent interpretation of European Directives at a national level without clear guidance regarding implementation.
19. As part of the implementation of the European Charter for Researchers and Code of Conduct, researchers supported under the Marie Curie Actions are expected to have adequate social security coverage, which in most Member States equates to an employment contract with the university or research organisation. However the definition of researcher within Marie Curie Actions also includes research students and this can cause complications for UK research councils, universities and research organisations who generally offer stipends to research students.

**Q3. How and where has UK engagement with partner countries or international bodies, both within and outside the EU, been helped or hindered by EU involvement?**

20. It is important to note that a significant proportion of UK engagement and collaboration with international partners takes place outside EU programmes. Where the UK chooses to engage it is usually positive and for the most part we consider the opportunities offered through EU engagement as complementary to those available at a national level. We choose to engage in European initiatives only when it represents a good opportunity for the UK. For example, the UK's recent successful bid to co-ordinate the EU-India platform in social sciences and humanities, where we have the opportunity to shape links between Indian and EU partners in a way which complements our existing partnerships between the UK and India.
21. The UK is currently involved in over 20 EU funded ERA-Nets. Under the ERA-Net scheme, national and regional authorities identify research programmes they wish to coordinate or open up mutually and are targeted at a fixed period in time. These are valuable coordinating activities within research disciplines which, as well as providing funding to coordinate and widen access to research programmes, enable agencies to work together to develop plans for new facilities at national and European level. Some of these may feed into the ESFRI process, but others can be delivered by smaller scale partnerships. Overall the outcome is better joint planning to avoid duplication and encourage collaboration where countries share requirements for a facility capability.

22. The Commission-developed concept of Joint Programming Initiatives (JPIs) has had a significant impact on UK strategy and planning. With the JPIs, Member States and Associated Countries are expected to coordinate national research activities in the broadest sense. JPIs are longer term 'umbrellas' for certain broad research areas and may decide to initiate coordinated funding initiatives, for example an ERA-Net, in a particular more time bound, specific area.
23. Many aspects of JPIs require a larger degree of implementation and funding than Member States can achieve collectively, therefore there is a valid role for the European Commission to incorporate some JPI areas within its plans, and assist Member States in their delivery including with additional funding as appropriate. There are many other benefits of working together flexibly that enhance impact and efficiency, through co-planning and alignment, and that do not require identification or earmarking of funds outside of normal funding streams. The significance of such strategic co-design and alignment across Member States should be recognised as a major contribution to joint programming.

### **Case studies: Joint Programming Initiatives**

The **European Joint Programming in Neurodegenerative Disease (JPND)** is an initiative between 26 European countries and one Third Country to address the growing societal challenge presented by age-related neurodegeneration. The JPND was established as a pilot programme for the new joint programming approach to European collaboration, aiming to enhance the impact of the European research effort by aligning and building upon existing national programmes to achieve common goals. The long-term goal is to find cures for neurodegenerative diseases and to enable early diagnosis for early targeted treatments. Accelerating progress on solutions that can alleviate the symptoms, and lessen the social and economic impact for patients, families and health care systems are key aims. The UK is playing a major role and we have led the development of the 10 year research strategy, launched in February 2012. A number of thematic priorities for this initiative have been identified, including: the origins of neurodegenerative diseases, disease mechanisms and models, treatments and prevention, and healthcare and social care.

The **Joint Programming Initiative for Food Agriculture and Climate Change (FACCE JPI)** and ERA-NET Coordinating Action in Plant Sciences (ERA-CAPS) actions are Member State initiatives which have as part of their remit an ambition to structure European and global research into food security. The UK (BBSRC) is co-leading FACCE with France and has been involved in the set up and governance of this initiative. The governing board has had oversight of the development of research priorities, which have formed the basis of the JPI's Strategic Research Agenda, designed as a research and innovation road map that will steer FACCE-JPI activities for the future. One of the first initiatives is Modelling European Agriculture with Climate Change for Food Security (MACSUR), a knowledge hub that brings together 73 partners from 17 countries to begin to tackle the challenge of developing a pan-European capability in the development, use and interpretation of models to perform risk assessments of the impacts of climate change on European agriculture. The Belmont Forum, an international partnership of funding agencies which is involved in strategic co-ordination of environmental science research is proving a useful mechanism for bringing broader global participation to regional or more limited multilateral initiatives, and is engaged with FACCE in a joint Collaborative Research Action on Food Security and Land Use Change. The aim of the call is to understand the dynamic and two-way interactions between food security and land use change and is aligned with FACCE's core research theme, 'Sustainable food security under climate change'. The joint call will leverage additional funding from European

partners within FACCE which is not involved in the Belmont Forum.

The UK is also a member of the **Cultural Heritage and Global Change: a new Challenge for Europe JPI** which commenced on 28 October 2011. The aim of the JPI is to define a common vision between the partners which will then be implemented through a Strategic Research Agenda (SRA). From February 2013, there is a further activity to extend the work of the SRA beyond Europe to the US, Japan, BRICS and neighbouring Mediterranean countries. A joint pilot call is currently under development intended to support either collaborative research projects or networking. The UK was also involved in a European ERA-NET, NET-Heritage which aimed to bring together cultural heritage researchers and practitioners through an online resource (the Heritage Portal: [www.heritageportal.eu](http://www.heritageportal.eu)). While NET-Heritage focussed on the tangible cultural heritage the JPI and the JHEP encompass the intangible (values) and digital aspects, while keeping the tangible heritage at its core.

**JPI Climate** is collaboration between 13 European countries to jointly coordinate their climate research, which enables cross-border research, connected scientific disciplines and increases the science-practice interaction. The UK is part of the Governing Board and part of the working group. NERC is contributing to the joint call on Russian Arctic Boreal systems as part of the NERC Arctic research programme and ESRC is leading on UK input on the Societal Transformations call.

## **Case studies: Collaboration supported by the EU**

### **European Social Survey**

Established in 2001, the European Social Survey (the ESS) is an academically-driven social survey designed to chart and explain the interaction between Europe's changing institutions and the attitudes, beliefs and behaviour patterns of its diverse populations. Currently in the midst of its sixth round, this biennial cross-sectional survey covers more than thirty nations and employs the most rigorous methodologies. The project is directed by the Centre for Comparative Social Surveys at City University London. During 2013 the ESS will become one of the first European Research Infrastructure Consortia (ERIC), and the first to be led from the UK which will act as the host Member State. ERIC status will help to secure the long-term future of ESS, which already has around 50,000 register users of the data from across the world. There are also discussions underway about evolving the Consortium of European Social Science Data Archives (CESSDA) into an ERIC, building upon the previous and existing work of the social science data archives across Europe to provide and facilitate access for researchers to high quality data on the social sciences. The aim is to build an integrated European social science data network, to underpin and support quality research, learning and teaching across the European Research Area.

### **Human Frontier Science Program**

Globally the UK participates in the Human Frontier Science Program: (HFSP) a programme of funding for frontier research in the life sciences. The HFSP supports novel and innovative basic research focused on the complex mechanisms of living organisms, with topics ranging from molecular and cellular approaches to systems and cognitive neuroscience. It is unique in providing support for truly interdisciplinary international funding, and places a clear emphasis on novel collaborations that bring together biologists with scientists from fields such as physics, mathematics, chemistry, computer science and engineering to focus on

problems at the frontier of the life sciences. HFSP is supported by 13 countries and the European Union (Australia, Canada, France, Germany, India, Italy, Japan, Republic of Korea, Norway, New Zealand, Switzerland the United Kingdom, the United States of America and the European Union). EU involvement not only provides funding but also enables the participation of researchers in those EU countries which are not involved individually, increasing and strengthening the EU representation in the group of participating countries.

### **Population Europe**

The ESRC Centre for Population Change (CPC) is part of 'Population Europe', a network funded by the EC and founded in 2009 which brings together all the major centres of excellence in the field of demography from across Europe. The benefits for CPC of being involved in Population Europe at an early stage have been significant, allowing the Centre to gain rapid and significant exposure across Europe. Members of CPC have presented their research at several of the Population Europe public engagement events, which have been attended by policy makers from the European Commission, Council of Europe, OECD among others, thereby gaining access to an audience that would have been difficult to achieve without Commission support. In addition to the user engagement opportunities, the network has also been instrumental in bringing institutions together to bid for FP7 funding. There has also been an 'exchange' of staff, with researchers in CPC moving to posts in Population Europe partners in Austria and the appointment of researchers from Germany and Italy in Southampton, opportunities which EU support is instrumental in underpinning.

### **The Group on Earth Observations**

The Group on Earth Observations (GEO) is a voluntary partnership of 90 governments and 67 international organisations. GEO aims to coordinate Earth observations, facilitate access to data and information, and to foster global initiatives to address gaps in capability. Participation in GEO has enabled the UK to have increased access to data held by other countries and organisations, and to participate in the initiatives designed to address gaps in our capability, for example to improve the monitoring of forests and to integrate our marine observing systems. The EC, along with the United States, China and South Africa, is a co-chair of GEO, and has actively facilitated and coordinated European contributions to GEO. The Commission has invested €140m in GEO activities to date through the Framework Programme and will be contributing data from Copernicus to GEO, resulting in Europe playing a leading role in influencing and delivering GEO activities and has created a High Level Working Group with representatives from European GEO members, this group provides a forum for sharing information, developing collaborations, and determining the European approach to GEO.

24. In terms of careers, the ESF Steering Group on Human Resources and Mobility (SGHRM) work, practice sharing through reports<sup>3</sup> and researcher conferences, and Euraxess has helped improve UK engagement. Examples include joint actions on the structuring of research careers, improving the attractiveness and competitiveness of European research careers, providing 'equal playing fields' for researchers of all backgrounds, supporting the development of 'portfolio careers', and developing and implementing European policies for research career development. SGHRM has also enabled the creation of a European Researcher Development Framework, the setting

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<sup>3</sup> [http://www.esf.org/fileadmin/links/CEO/ResearchCareers\\_60p%20A4\\_13Jan.pdf](http://www.esf.org/fileadmin/links/CEO/ResearchCareers_60p%20A4_13Jan.pdf)  
[http://www.esf.org/fileadmin/Public\\_documents/Publications/mof\\_research\\_careers.pdf](http://www.esf.org/fileadmin/Public_documents/Publications/mof_research_careers.pdf)

up an International Platform for Researcher Career Tracking and Monitoring, and establishing guidelines to acknowledge new concepts of researcher mobility (international, intersectoral, interdisciplinary, virtual) – all positive steps towards achieve a European Research Area where researcher mobility is fully supported in both policy and practice.

**Q4. What benefits or difficulties has the objective of a European research area (ERA) delivered for the UK?**

25. While most research activities, programmes and policies take place at regional and national levels, there are certain circumstances where a single country cannot offer sufficient resources to be competitive on the world scale, for example where critical mass, or large infrastructure is needed. Transnational co-operation can, when properly implemented, help make the most efficient and effective use of national and regional resources but is not always the most appropriate way of working. Research problems and researcher communities vary considerably and, as a result, have developed different and interesting approaches to the support of research internationally. Where communities are not already well networked or where funding mechanisms are not initially compatible, then investment in visits, workshops, mapping and other forms of information sharing may be an essential first step. Beyond this, single managed joint calls, as is often seen in ERA-Nets for example, are a suitable if potentially administratively heavy and expensive solution for a topic orientated initiative. Where there is already a well networked community of researchers and funders it may be more valuable simply to align national activities such that the researcher community is supported in parallel, as the Commission intends with JPIs.

**Case study: Humanities in the European Research Area (HERA)**

In terms of research programmes, the AHRC currently co-ordinates HERA (Humanities in the European Research Area), a partnership between 21 Humanities Research Councils across Europe and the European Science Foundation (ESF), which has the objective of firmly establishing the humanities in the European Research Area and in the European Commission Framework Programmes. So far, it has funded two Joint Research Programmes through a pot of money comprising contributions from partners and top-up funding from the European Commission. The first, launched in 2009, funded 19 collaborative European projects in the humanities, of which eleven were led by UK partners. The total budget was €16.5m, of which €4m came from the Commission. The second call, launched in 2012, will fund 18 projects, of which nine are led by UK based researchers (with a further eight involved as partners). The total call budget was €18m, of which €6m was contributed by the Commission. The first set of projects recently concluded with a successful conference in London (<http://www.ahrc.ac.uk/News-and-Events/Watch-and-Listen/Pages/HERA-film.aspx>). The second set of projects will be launched at an event in Dubrovnik on 1 October 2013.

**Case study: Open Research Area (ORA)**

ESRC has been building on its experience of joined working with its European counterparts through the launch of the Open Research Area in Europe for the Social Sciences in 2009. The ORA, an agreement between ANR (France), DFG (Germany), NWO (Netherlands) provides a straightforward mechanism for leading social scientists to obtain national funding to collaborate with partners elsewhere in Europe, avoiding many of the

bureaucratic obstacles and restrictions often perceived as being associated with other types of European funding. The scheme is open to proposals in any area of the social sciences, resulting in an exciting portfolio of projects that will influence policy and push the boundaries of our understanding of individual and social behaviour and provide positive benefits not just for the countries involved but for the European Union as a whole and beyond. Now in its third round with over 20 awards with UK partners and a UK investment of around £5m, the ORA is viewed by academics as a model for successful international collaboration and an important contribution to delivering the European Research Area in the social sciences. With agreements expanded to the NSF (USA) and NSFC (China) in the last year, the ORA can be seen as fulfilling the European Commission's desire to see improved coordination and collaboration between teams of researchers from different countries, supported by funding organisations in Member States.

26. As Member Organisations of Science Europe, the Research Councils support the Joint Statement on the ERA Framework Communication objectives which Science Europe signed up to in 2012<sup>4</sup>. This states that the direct involvement of research stakeholder organisations will strengthen the European Research Area and will contribute to building a unified research area, open to the world, in which researchers, scientific knowledge and technology circulate freely and through which the Union and its Member States strengthen their competitiveness and their capacity to collectively address grand challenges.
27. Monitoring the implementation of the ERA is one area which is proving complex. Science Europe is part of the ERA stakeholder platform, which works closely with partners and Member Organisations, and as part of the Joint Statement has committed to publicly reporting on progress against ERA priorities using data gathered from their Member Organisations. Lack of co-ordination across the Commission in terms of how it chooses to monitor the implementation of the ERA results in increased and duplicated workload for Member States. RCUK would like to see a more aligned approach to monitoring activities and greater clarity in what the Commission sees as a successful ERA.
28. The implementation of the ERA has also provided a key impetus in the adoption of Open Access policies for published research outputs across Europe. Initially launched in 2008 as a selective pilot as part of FP7, Open Access to EC funded research results has been actively supported by the Commission through advocacy and policy, as well as direct funding of initiatives to facilitate the harmonisation of policies across Europe as well as the development of supporting infrastructures. In July 2012, the Commission issued a Communication, which stated that it would establish open access to scientific publications as a general principle in the Horizon 2020 programme from 2014. In addition, the EC also issued a Recommendation to Member States, asking them to define clear policies for the dissemination of publications resulting from publicly funded research. The proposed policy, which supports both 'Green' and 'Gold' models, requires open access to publications resulting from publicly funded research as soon as possible, preferably immediately and in any case no later than six months after the date of publication, and twelve months for social sciences and humanities. These principles are well aligned with the RCUK Open Access policy.
29. In addition, the Communication and Recommendation also included requirements to develop further open access to research data policies. It is anticipated that Horizon 2020 will include a selective pilot in this area. The Commission is supporting the

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<sup>4</sup> [http://www.scienceeurope.org/uploads/Public%20documents%20and%20speeches/joint-statement-17072012\\_en-2.pdf](http://www.scienceeurope.org/uploads/Public%20documents%20and%20speeches/joint-statement-17072012_en-2.pdf)

development of international standards for data sharing, through policy and funding initiatives, such as the Research Data Alliance.

30. With the development of online publishing as the default model of access to scientific literature, combined with the huge increase of new papers being published, computer assisted analysis and filtering of the corpus of literature in order to mine for facts and data has become an essential discovery tool for researchers. This presents however a number of difficulties in relation to copyright law. The Commission started a consultation in Spring 2013 in relation to 'text and data mining (TDM)' of publishing content, under the initiative 'Licences for Europe Text and Data Mining'. RCUK, along with the European scientific community, has raised real concerns that the Commission seemed only willing to consider additional licensing (at additional costs) as an option to enable text and data mining on lawfully accessed content, rather than envisage a broader range of possibilities. This approach is of particular concern to UK researchers, as the government is in the process of implementing the recommendation of the Hargreaves Review into legislation, and a key component of this review is the new exception for non-commercial text and data mining.

**Q5. How has the EU sought to coordinate the policy instruments at its disposal across different policy areas to create an enabling environment for researchers and innovators? How successful has this been?**

31. We welcome the Commission's commitment to the simplification agenda, both at a structural and process level, and highlight the importance of learning lessons from previous Framework Programmes. Bringing elements of the Competitiveness and Innovation Programme and the European Institute for Innovation and Technology together under Horizon 2020 is a positive step towards a clear and supportive European framework for research and innovation. Within Horizon 2020 we welcome the steps the Commission are planning to reduce bureaucratic complexity as much needs to be done in this space to ensure rewards from participation in joint EU activities are not negated by the burden of administration which has to date deterred participation by some from industry and academia.
32. However, concepts such as the new European Innovation Partnerships, which aim to bring different initiatives and instruments onto a common platform, have the potential to increase rather than reduce complexity and there needs to be ongoing consideration so that the result is an increase of the impact of the whole, rather than dilution of the ambitions of the parts. Open dialogue between all the relevant actors, starting early on in the design stages, and throughout the process of development, is a critical factor in the success of this approach.
33. We would welcome a commitment by the Commission to produce a map of all the ongoing initiatives in the research and innovation landscape. This is being dealt with to some extent within the work of the European Innovation Partnerships, though these are only focused on their specific areas, rather than across the breadth of the funding and policy landscape.

**Future opportunities and challenges**

**Q6. What could the EU most helpfully do to promote scientific and technological progress and innovation (including in the space sector)?**

- **How could the EU use its existing competence differently to deliver more in your area?**
- **How might a greater or lesser degree of EU competence deliver more in your area?**

- **How could improvements to existing EU activities make them more effective and efficient?**

34. In order to ensure that EU activity in this area is able to add value and enhance the actions of individual Member States, we consider that Member State engagement through a range of avenues (such as Programme Committees and the National Contact Point network) is essential, both in helping to shape the EU funding programmes and also so that we are able to ensure that EU funding is complementary to national funding.
35. To maximise the quantity and quality of international participation, there needs to be more effective dialogue between the EU and 'third countries', both in terms of overall programme development and in drawing up work programmes. In addition, rules of participation should facilitate rather than deter participation, and international co-operation opportunities should be made more visible, both within and outside of the EU. Currently it is not always clear what the Scientific Cooperation Agreements which the EC has entered into with many countries outside of Europe mean to individual Member States. Engagement via the EU should be distinct from and not be seen as a replacement for the valuable bilateral relationships many Member States have built up with third country partners.
36. The Commission's membership of the Belmont Forum of major environmental change funders, led by NERC and NSF, provides a useful model for such joint international planning. Better dialogue is needed between European policy bodies responsible for international co-operation to ensure that this is the case, and, as noted above, the Commission needs to be consistent and coordinated in its approach and refrain from establishing parallel processes.
37. Mobility of researchers is referenced in both the Horizon 2020 and ERA consultations, but it should be clear that mobility is not an end in itself – it is the experiences and skills gained by the mobility experience that improve research. To assist with intra-European mobility, other Member States should be encouraged to ensure that open recruitment for researchers becomes normal practice.
38. There is still limited evidence on whether the Commission's ambition for private sector funding (e.g. the European Institute for Innovation and Technology (EIT), Joint Technology Initiatives) has been fully realised. Given the significantly more prominent position that the EIT and its initiatives has in Horizon 2020 it is important that the implementation and success of such ambitions are closely monitored and measured. We would reiterate the importance of the EU's continuing support of research excellence and would like to see a firm commitment that excellence is expected to lead to innovation.
39. Within Horizon 2020 the Commission has consistently supported the view that the social sciences and humanities will play an important role in addressing all of the societal challenges. To realise this ambition the Commission needs to ensure that the social sciences and humanities are truly embedded within all societal challenges work programmes and research areas have been co-developed and defined.

**Q7. Where might future EU level action be detrimental to your work in this area?**

40. Where European legislation is developed which does not principally concern research, it is vital that potential impacts on research are fully considered and understood so that, if necessary, the proposed legislation can be effectively modified, repealed or new legislation drafted to ensure that European research and innovation, and in turn European competitiveness, is not stifled. Legislation should only be used as a tool if no other measures can succeed in meeting an objective that has the

support of all Member States. In this case, the Commission should demonstrate the necessity for legislation and the EU added value of the proposal. A voluntary rather than legislative approach is preferred, unless there is clear evidence to the contrary.

41. A highly-relevant example is the EU Data Protection Directive, currently undergoing scrutiny by the European Parliament, which has potentially serious implications for the use of patient data for health research purposes. It is crucial that the resulting legislation is able to balance data protection requirements with the need to retain sufficient flexibility for innovative research.  
(<http://www.acmedsci.ac.uk/p47prid107.html>).
42. Since February 2011 there has been extensive debate on whether or not the Commission would or should suggest legislation within the ERA, given that the Treaty of Lisbon gives the EU the authority to propose legislation to realise ERA, although this would still require Member State approval. At the ERA Conference in February 2012 the EU Commissioner for Research, Innovation and Science stated that if insufficient progress on ERA had been made by the end of 2013 she would recommend that her successor make use of the new Treaty provision to propose legislation, and she clearly stated that the “non-legislative approach is in the last chance saloon”. We consider that using a legislative approach in this context would be a sledgehammer to crack a nut and implementation of the legislation virtually impossible on a practical level. We would however welcome open and transparent debate on what measures might be appropriate if Member States agree at a defined point that progress towards achieving the concept of ERA has not been sufficient.
43. RCUK would not want legislation in the Research Careers area, e.g. on open recruitment and professional status of researchers, as we already have an open system for recruitment of researchers. We ensure through the Concordat<sup>5</sup> that researchers are recognised and valued by their employing organisation as an essential part of their organisation’s human resources and a key component of their overall strategy to develop and deliver world class research.
44. The EU has proposed that the European Space Agency (ESA) should be incorporated into the EU framework. As noted in the RCUK response to the House of Commons Science and Technology Committee inquiry into European and UK Space Agencies<sup>6</sup> there are significant benefits to the current governance of ESA, which could be lost if it moves into the EU framework, for example it is not clear from the European Commission’s communication (COM 2012 671) to what extent ESA’s R&D role, both in terms of the technology it develops and the science it enables, will be maintained.

**Q8. Where might action at national rather than EU level be more appropriate / effective?**

45. The concept of subsidiarity remains essential to the success of, and support for, the EU programmes for research and innovation. Community funding should be used in areas where there is a tangible benefit to acting collectively, where European-level competition and benchmarking are needed to stimulate excellence, or where the scope of an activity is beyond that where Member States could act individually or bilaterally.

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<sup>5</sup> <http://www.vitae.ac.uk/policy-practice/505181/Concordat-to-Support-the-Career-Development-of-Researchers.html>

<sup>6</sup> <http://www.parliament.uk/business/committees/committees-a-z/commons-select/science-and-technology-committee/inquiries/parliament-2010/european-and-uk-space-agencies/>

**Q9. How could EU and national policies and funding streams interact better?**

46. Framework Programme funding for research and innovation and EC Structural Funds are managed in entirely different ways, each with an entirely different ethos, but using them to support different aspects of the same project has been raised several times in recent years. For Horizon 2020 the Commission has proposed a clearer division of activities between Horizon 2020 and the structural funds, while aiming to strengthen interactions and simplify both processes of funding. We welcome this attempt to ensure better co-ordination, co-operation and information exchange between the two funding programmes. In the UK, a number of EC structural funding streams are being brought together to create 'EU Structural and Investment' (EU S&I) funding: European Regional Development Fund (ERDF), European Social Fund (ESF), and part of the European Agricultural Fund for Rural Development (EAFRD).
47. The opportunity of accessing complementary streams of funding from Framework Programmes, EU S&I funds and national funding streams (Research Council/HEFCs/TSB) to support research and innovation is attractive. In practice however this is proving complex due to UK structures. The Research Councils and the Technology Strategy Board have UK-wide remits, while planning at government level is being managed separately by each country of the UK; this makes it difficult to engage on a UK-wide platform and identify opportunities across the whole UK research landscape. The localism agenda, which is driving the allocation of the EU S&I funding and advocates that projects are selected at a local level, may also compromise the ability of national bodies working in the area of research and innovation to invest in projects which demonstrate national excellence. As EU S&I funds require matched funding, we feel that the opportunity to combine Research Council funds with EU S&I funds to deliver high-quality projects at local level is at risk of not being exploited fully.

**Q10. What impact would any future enlargement of the EU have on this area of competence?**

48. As long as the balance between excellence and widening participation remained appropriate, it is unlikely that any future enlargement of the EU would significantly affect the quality of research and innovation funded at an EU level. It would therefore be important to maintain the political emphasis on excellence throughout future Framework Programmes for research and innovation, both so that Europe can perform to the best of its ability in an international context, and to ensure that benchmarks for excellence exist across Europe. A recent addition to the Horizon 2020 programme is a programme specifically aimed at 'Widening participation and Spreading Excellence'. This approach neatly allows new Member States to climb the Stairway to Excellence without excellence being undermined.

**Q11. Are there any other points you wish to make which are not captured above?**

49. RCUK has also submitted evidence to the Home Office-led second semester reviews on 'Free Movement of Persons' and 'Asylum and Immigration'. MRC submitted evidence to the Department of Health-led first semester review on 'Health'. We would recommend that colleagues compiling the BIS report for the Research and Development review read our submissions to these reviews for additional relevant information and context.