

**Review of the Balance of Competences: Research and Development**

**Records of Stakeholder Events**

*NB the following views were expressed by event attendees*

**Research and Innovation Stakeholders - 3 & 8 July 2013 .....1**

**Space Stakeholders - 8 July 2013 .....2**

**Roundtable Stakeholder Event - 30 July 2013 .....3**

## **1. Research and Innovation Stakeholders - 3 & 8 July 2013**

## **Balance of Competences – Research and Innovation Stakeholder Readout**

### EU Funding

- Framework Programmes (FP) are valued and provide significant funding to the UK for research and innovation. There has been a significant increase in recent years in the proportion of EU funding in the overall UK research funding portfolio.
- FPs are valued not only for the funding provided but also because they create opportunities for international collaboration which helps to increase both the UK's standing and competitiveness.
- EU funding has strengthened research infrastructures. It allows national centres to work together and have synergy with national funding which increases value on top of national funding and enables the UK to have more influence not just in the EU but globally. Sharing capital facilities and access to equipment in Europe can accelerate research.
- In particular the UK benefits from:
  - European Research Council (ERC) Grants which can be used as a lever for additional funds as the ERC is a badge of excellence; and
  - Marie Curie schemes (including training elements). As well as funding for individual researchers they increase incoming talent into the UK with links (and hence collaboration) being maintained after researchers have left the UK.
- There is a role for structural funds in research but the way regions operate varies across Europe. There is a need for greater synergy between Horizon 2020 and structural funds which could be used to build up towards excellence. Smart specialisation should drive through change by making Member States prioritise.

### Collaboration

- The EU platform is invaluable; it provides an overall framework to share knowledge across Europe. EU projects are beneficial to UK organisations because of the knowledge exchange and the bringing together of partners that would not normally collaborate. For business it provides a forum in which to compare and contrast approaches in different countries and to recognise issues which affect all businesses
- Collaboration at EU level is a stepping stone to other countries. Calls for working with specific countries, e.g. Brazil and China, are useful in establishing new links and working with countries which otherwise UK participants would not work with.

- EU programmes are often the most effective way for companies, especially SMEs, to access third countries such as China and Russia; they would find it difficult to create links directly.
- European Technology Platforms are very effective and allow for pan-European working. They allow industry to talk to manufacturers in Europe which would not be possible otherwise. For the nuclear industry they have allowed skills and facilities to be maintained in the UK which might otherwise have been lost but can be called on again if needed.
- Examples where EU collaboration has been vital include developments in nanotechnology, aerospace, and 5G technology. These cannot be taken forward by the UK alone; complex issues can be tackled in a more multinational way from within the EC. EU collaboration has also allowed large-scale clinical trials to be carried out.
- There was a view that pressure to bring in smaller EU countries might preclude or limit collaboration outside Europe.
- It is important for the UK to have a voice at the table; this is happening with the European Innovation Partnerships. The UK has a much louder voice on research and innovation through collaborating with European partners.
- It is difficult to quantify the financial benefit of EU collaboration but qualitative evidence is largely positive. One contributor commented that the UK benefits from a 1.25% uplift multiplier effect.

### Excellence

- The focus on excellence for receiving EU funding is generally welcomed.
- Some aspects of the EU are seen as potentially working against excellence. The EU's desire for cross-border collaboration could mean that time is expended to satisfy this requirement at the expense of the research itself. Also, the mixture of research, innovation and knowledge transfer can have negative consequences as it tends to be difficult for researchers who do pure research to qualify.

### Business engagement/competitiveness

- While UK universities benefit significantly from EU funding, businesses are less engaged. A lot of businesses find EU funding unattractive because it is seen as complex and bureaucratic. Business prefers a simpler model with one source of funding.
- This is especially the case for SMEs which are often focused on the short-term and are intimidated by EU processes such as the reporting requirements for EU projects.

- However Eurostars was cited as an effective business-facing programme where UK SMEs have benefitted considerably.
- Participation of UK companies should be easier with Horizon 2020 but will need significant effort from the EU. This is positive for SMEs and could provide the necessary push for innovation/development SMEs.
- The UK needs the weight of the EU and its large market place in order to attract large multi-national companies. The value of the UK to large multi-nationals is that it provides access to the rest of the EU.
- The EU 'seal of approval' can attract greater interest from potential en-users and collaborators from inside and outside the EU.
- The UK is seen as setting the standard/model for many EU activities which placed us at a competitive advantage

## ERA

- The principles underpinning the ERA are good. However many stakeholders considered that the concept of the ERA was poorly defined with at least two describing it as nebulous. It is difficult to 'pin down' what ERA will mean in practice for researchers and research.
- The indicators which will underpin ERA are not seen as helpful; the concept of ERA cannot be defined by, for example, a particular percentage of joined up infrastructures nor can it be achieved by a particular date as it is an ongoing process.
- The UK is already well advanced in achieving almost all aspects of the five key priority areas for ERA. This is a good promotional tool for the UK. Stakeholders drew attention to:
  - a large number of universities already having secured a badge of excellence in HR as encouraged by ERA
  - the positive role of Euraxess for mobility
  - the UK's policy on Open Access which was ahead of that envisaged for ERA.
- However, it is important to note that this does not mean the UK would be unaffected were legislation to be introduced, as unnecessary reporting burdens would be imposed
- The ERA may impact on collaboration. While it might encourage collaborations with the newer Member States, it might limit wider collaboration by presenting what might be seen as a closed shop.
- Mobility of researchers, a key ERA priority, is hampered by different pay-scales across Europe.

## JRC

- The JRC is not seen as effective as it might be. It tends to focus on universities located near to the JRC centres even though there might be better expertise elsewhere. There could be more efficient ways to distribute funding perhaps through targeted calls open to institutions.

## EIT

- The European Institute of Innovation and Technology (EIT) and its Knowledge and Innovation Communities (KICs) are key planks in the EU innovation agenda but:
  - KICs are seen as opaque in how they operate and how others can get involved; a lack of rigour could lead to a system not based on excellence
  - Increased funding for EIT under Horizon 2020 is seen as questionable by some stakeholders who felt that the EIT is, as yet, untested

## Joint programming

- Joint programming has increased since FP4/5; the larger it gets the more it could drive the direction of research policy in individual Member States.

## Innovation

The points above apply to both research and innovation unless specified otherwise. Points relating only to innovation are:

- The Commission should do more to promote a pro-innovation environment with a greater focus on commercialisation of the products for research and development. Industry needs the EU perspective when developing products.
- No single funding system will encourage innovation; plurality is key to presenting diversity. [Note - This contrasts with the point made under business engagement/competitiveness that businesses prefer one source of funding]
- Standardisation has pros and cons:
  - It can reduce the propensity for risk-taking and the likelihood of innovation
  - It is helpful in some emerging areas where it is important to have products and services which are compatible across Europe to facilitate trade and competitiveness, such as hi-tech areas and radio communications that can work across boundaries

- State aid rules have an impact on the industrial use of research facilities. There are national differences in how state aid rules are interpreted.

### Future opportunities and challenges

- Continuity and stability is important; need to have certainty about the long-term funding picture.
- It is more efficient to organise European-wide collaborative programmes on the scale of FPs centrally rather than via multiple bilateral/multilateral agreements which would have to be negotiated separately.
- It would be reputationally damaging for the UK not to be involved in EU research and innovation. It would give the appearance that the UK would not want to collaborate with its EU partners
- The UK should take a global perspective and look at innovation hotspots across the world, which tend to be outside Europe – rather than just looking at what is happening in Europe. Countries, such as China, look at individual countries for collaboration rather than the EU as a whole.
- The UK should not assume it could get a similar deal to third country participants like Norway and Switzerland. The position would be different for a country leaving the EU compared to one that might one day join the EU. In addition, the UK is a much larger recipient than Norway or Switzerland.
- The Commission could do more to:
  - Foster commercialisation of research outputs
  - Clarify the difference between research and innovation with, perhaps, three layers: pure research, near to market innovation and longer-term innovation
  - Be more honest about innovation with permission to fail as not everything can come to market and often more is learnt from failure than success
  - Ensure that initiatives are joined up. Examples where they have not been joined up include: Digital Strategy which did not mention smart grids/smart cities; and in FP7 there were different elements of funding for earth observation via satellites and for the purpose of flood defences.

## **2. Space Stakeholders - 8 July 2013**

## **Balance of Competences – Space Stakeholder Readout**

### Positive impact of EU

- EU involvement in space policy and programmes has played a key role in building up activities in space, as the UK and other EU countries do not have the financial resources to deliver major programmes on their own and because EU involvement enhances the global reach and benefits of satellite-enabled services. The EU complements ESA R&D and encourages collaboration with other European customers, supply chain partners and countries.
- The EU has a key role as a user and customer for space-enabled services, which has brought both funds and ownership to flagship programmes such as Galileo and, through this, business and support for research has come to the UK; the EU contributes to the sustainability and growth of the UK space industry.
- The EU has enabled a consensus to be reached, through a bottom-up decision-making approach, on what technologies are needed, which then helps to drive activity at an individual country level.
- There is a regulatory role for the EU, e.g. in the Radio Spectrum Policy Programme, which supports the specific spectrum needs for satellite communications. However it should be noted that a 'super-regulator' could be a threat to UK industry.

### Funding

- The Framework Programmes benefit the UK space community by providing funding for space research, although the impact to date has been greater in academia than in the business community. That said, the new EU space industrial policy has the potential to be of significant benefit to UK companies, once adopted. Some in the business community expressed a view that funding of companies in the same industrial group in different countries is currently excluded which effectively penalises pan-European investment by such groups and hinders moves to strengthen the single European market.
- A mixture of funding sources is available through ESA, FP7, structural funds (as with the National Space Centre in Leicester) and EIT programmes (e.g. the Climate KIC has interest in using and exploiting satellite data). This is good for space research as sources of funding are continuously available and additional support is available for commercialisation. This is most unlikely to be the case if all funding was in one UK national funding pot.

- FP 6 and 7 have enabled centres of excellence to be built up; this has created spin-offs which have become self-standing businesses.
- EU funding has helped stimulate the sharing of laboratory services across Europe, which has created a stronger and more unified research community for space both across the UK and Europe, helping the UK space community position itself to undertake world-class research. This has been positive for UK regional engagement.

### Galileo

- The EU's political ownership of Galileo (e.g. Commissioner Tajani's personal commitment to a deadline for launch) has been crucial in galvanising action and progress in bringing Galileo to market. Without EU intervention, activity may have stalled.
- The promotion of the public-private partnership route for Galileo around 10 years ago had the consequence (unintended by some stakeholders) of breaking up a politicised industrial workshare arrangement to deliver Galileo. This opened up new opportunities for UK industry.
- The EU wants Galileo to be customer driven but it is unclear whether the EU will take the user and service delivery approach necessary to make this work

### Copernicus

- Copernicus is essential infrastructure and Europe needs some aspects of non-dependence in Earth Observation – without the EU this would stall.

### EU and ESA

- The EU and ESA should continue as separate space actors but common road-mapping (particularly in technology) should be undertaken; we would not want to lose the customer/implementation partner relationship that exists between the EU and ESA respectively. In particular, the EU should coordinate closely with ESA to ensure the alignment of its Horizon 2020 space components with ESA sponsored technology roadmapping.

### Co-ordination of other policy instruments

- EU policies/regulatory interventions in other areas can have an impact on the UK space industry, e.g.:
  - satellite imagery is used to help validate claims for EU agricultural funds, and the volume and type of such data can change if the details of the funding scheme are varied
  - EU involvement in telecoms/universal broadband has been a failure in terms of space interests, as it is all based on fibre

optics rather than satellites. (Member States have received money for broadband deployment from structural funds based mainly on fibre optics). In contrast ESA's telecoms programme provides strong support to the space industry

- There are funding streams from both EU environment and research budgets for different aspects of earth observation (outputs and technology). These should be brought closer together, possibly at Horizon 2020 call stage
- Fisheries, marine and rail policy are all also linked to space policy and objectives could be better aligned.

#### Impact of EU enlargement

- Enlargement of the EU increases the size of the community and market but new members may dilute rather than strengthen the market accessible to UK providers and the diversion of projects to new entrants can lead to fragmentation and disruption of the supply base and loss of expertise from the UK. It could also have an impact on regional funding which may be diverted away from the UK.
- Enlargement nations which have joined ESA tend to become involved in software development rather than in developing their own laboratories or building manufacturing facilities – this enables them to become engaged with space activities relatively cheaply. However it potentially threatens an area of UK excellence.

#### The future

- There is potential for more EU involvement in international areas of space activity, e.g. space surveillance and tracking, space weather and space debris.
- No significant changes are seen as necessary, apart from co-ordination of roadmaps between the EU and ESA.

### **3. Roundtable Stakeholder Event - 30 July 2013**

## **Balance of Competences Stakeholder Roundtable - 30 July 2013**

### **Stakeholder Readout**

#### Individual points raised by stakeholders

- Innovative ideas can come from different people in different ways and there are different views about what innovation is. EU programmes expect resilience and track records which smaller operators with innovative ideas do not have. There is no evidence of coherence or coordination and the evaluation of projects looks for outputs rather than a body of evidence about what does and does not work. It would be useful to:
  - have funding available to move from the prototype stage
  - allow an organisation which begins to make a profit from innovative activity for the benefit of the project rather than cutting off funding
- EU research funding is hugely beneficial and works well. Innovation is less clear-cut; quite a lot of focus on EIT. There is a risk of the EU making things too complex.
- EU research funding is beneficial but is not the main aim of researchers – it contributes to making networks and broadening and deepening contacts. EU funding is especially helpful in funding multidisciplinary activity which is not always easy through national funding routes. The activities of the ERC are very welcome. It has been useful to have proof of concept grants for 12 months after an ERC grant to bridge the “valley of death” between research and the commercial market.
- Confirms that financial support from EU is positive for the Cogeneration<sup>1</sup> sector allowing technology to move into first production. The EU contributes with industry also providing funding. However, the EU tends to move to larger and larger projects and look for well-developed concepts before developing them – which is a potential loss; though for space funding larger scale is better. There is an interaction between the EU and private funding which can produce a multiplier effect

### **Innovation**

- It is too early to assess the impact of EU innovation initiatives. For example, the Climate KIC is just starting to get going. There are problems with

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<sup>1</sup> Cogeneration is the process whereby a single fuel source, such as natural gas, is used to produce both electrical and thermal energy

bureaucracy and not getting the funding upfront. Changes are needed for the EIT process as there is only a small amount of pre-funding and the EU pays late. This is not tenable on a long-term basis and has influenced involvement in future KICs.

- Unsure how much innovation will come through H2020 and whether the Industry Pillar 2 will deliver what the EU says it will as changing a mindset will take time.