

Department for Business, Innovation & Skills - Call for Evidence

The EU Framework Programme

Response by the Wellcome Trust Sanger Institute

January 2011

The Wellcome Trust Sanger Institute (WTSI) is one of the world's leading academic centres for genomic and genetic research. The Institute has greatly benefited from the EU Framework Programme (FP) and is grateful to the Department for Business, Innovation & Skills for the opportunity to contribute to this consultation.

WTSI researchers consider that the FP has greatly contributed to the consolidation of the EU research community and science base. Ensuring European research remains internationally competitive and leads to novel applications requires sustained investment, particularly in research infrastructures, and a clear focus on excellence and creativity.

Given current UK research budgets, supplementation *via* successful participation in the Framework Programme will support UK research in a way that is consistent with the plans set out for the European Research Area and an *Innovation Union*, notably the investment targets that have been recommended.¹ We would therefore urge the UK Government to work with its EU partners to support a significant increase in the FP8 budget even if the EU budget does not grow.

The FP is very well suited to the sort of large scale research projects WTSI researchers typically engage in. Such projects clearly demonstrate the benefits of collaborative approaches: they benefit from economies of scale, create cross-sector international networks and systems, and achieve more than would be possible through the isolated efforts of an individual Member State. However, breakthroughs in many areas of the life sciences, including genomic science and medicine, increasingly depend on the integration and analysis of very large amounts of data that are accruing. The importance of research infrastructures to support the handling and storage of large scale data has been recognised under the roadmap process set up by the European Strategic Forum for Research Infrastructures (ESFRI)². However, FP7 did not commit adequate funds to develop and support the proposed infrastructures, which has seriously hindered their creation. The WTSI views the support of bioinformatics infrastructure to facilitate data integration and sharing as crucial if we are to benefit from the digital era of bioscience. As clinical applications of genomics become

¹ *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Europe 2020 Flagship Initiative Innovation Union*, SEC(2010) 1161, and *The Role of Community Research Policy in the Knowledge-Based Economy*, Report of an Expert Group to the European Commission (November 1st, 2009).

² *European Roadmap for Research Infrastructures, Roadmap 2008*, European Strategy Forum on Research Infrastructures.

important in clinical practice, as discussed in the recent UK House of Lords report on Genomic Medicine,³ such infrastructure will also underpin the delivery of healthcare. The UK should therefore actively support the development of pan European infrastructures related to biomedicine, including data and biobank resources. A new FP funding instrument may be required to achieve this.

The WTSI also believes that alongside investments in data infrastructure, introducing and enforcing data sharing policies for most FP-funded research would have a considerable beneficial impact on research outcomes.⁴ Open access to scientific publications and raw research data maximises research investments by increasing the use of this information and the amount of knowledge that can be extracted from it. Data sharing is also important to preserve scientific integrity, inform policy and regulation, and foster a public climate in which biomedical research can flourish.

In terms of the future FP, research excellence should be the main factor determining funding allocation. This will be crucial to rapidly fuel growth and to accelerate translation of research into healthcare benefits. In terms of the structure of future FP funding instruments, promoting creativity should be a constant focus. The accepted strengths of UK science have been nurtured by the flexibility and responsiveness of UK funding streams. Strictly defined and structured work packages are well suited to production but less so to encouraging innovative research. The FP should adapt its procedures for developing funding calls to this end, mainly through increased openness to attract a greater range of proposals.

The FP has enabled the development of strong research networks, such as the European Virtual Institute for Malaria Research, and has encouraged collaboration rather than wasteful competition in many specialist areas. It will be important to reap benefits from these networks by funding promising collaborative EU research projects derived from them. The approaches developed by the European Research Council for the Ideas programme, which promote scientific excellence and creativity, would be highly beneficial to developing the Cooperation scheme in this direction. Alternatively, expanding the Ideas scheme to support collaborative work may achieve this goal.

Finally, basic science often increases our understanding of the fundamentals behind many problems and is essential to devise ingenious solutions to them. Tailoring the FP research agenda to address Grand Challenges requires that the value of fundamental research be recognised. Allocating budgets solely according to which challenges a project might address risks disregarding the unexpected impacts advances may have across various fields (genetic knowledge being a very good example). Similarly, we feel that the promotion of interactions between academia and industry within FP programs can be overly prescriptive as some fundamental research projects cannot be immediately translated into successful commercial products despite the inclusion of industrial partners.

³ *Genomic Medicine*, House of Lords Science and Technology Committee, 2nd Report of Session 2008-2009.

⁴ *Prepublication data sharing*, Toronto International Data Release Workshop Authors (2009), *Nature* **461** 168-170, doi:10.1038/461168a.