

Response to Request for Input on the HEFCE:

### **Knowledge Exchange Comparison Framework**

On behalf of the UK Computing Research Committee, UKCRC.

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The UK CRC is an Expert Panel of all three UK Professional Bodies in Computing: the British Computer Society (BCS), the Institution of Engineering and Technology (IET), and the Council of Professors and Heads of Computing (CPHC). It was formed in November 2000 as a policy committee for computing research in the UK. Members of UKCRC are leading researchers who each have an established international reputation in computing. Our response thus covers UK research in computing, which is internationally strong and vigorous, and a major national asset. This response has been prepared after a widespread consultation amongst the membership of UKCRC and, as such, is an independent response on behalf of UKCRC and does not necessarily reflect the official opinion or position of the BCS or the IET.

The following paragraphs provide specific responses to the questions posed by the HEFCE KE Technical Advisory panel:

- 1. What approaches and data need to be used to ensure a fair and meaningful comparison between different universities, taking into account factors that might impact individual institution's knowledge exchange performance (such as research income, size or local economic conditions), whilst allowing identification of relative performance? How should benchmarking be used?*

The report by the McMillan group on “good practice in technology transfer” provides a sound basis for the rest of the work. It sketches a broad landscape for activities that would be in scope. However, there remains considerable uncertainty about what counts as knowledge exchange and knowledge exchange funding. We would welcome defining principles beyond the existing good practice resources.

The volume of funding for knowledge exchange is often not a good indicator for the performance (or positive impact) of knowledge exchange activities; especially when there are strong differences in terms of the support provided to public engagement, activities involving the third sector and those directly connected to commercial organizations.

We also recognise there are issues of longevity – some KEF activities take many years to realise their impact. Others burn brightly for a few months and then vanish without trace. We welcome metrics that consider whether initiatives establish frameworks for KE that sustain engagement based on long-term relationships and that may involve a pipeline of innovation. We also recognise that some KE activities

deliver tangible or quantifiable outcomes while others are less easily captured, such as subtle shifts in culture and practices; metrics should embrace the full range of KE activities and outcomes.

It may be more appropriate to focus on beacons of good practice across different regions rather than on national benchmarks that will focus criticism and create hostages to sustained misinterpretation; for example, where poor performance against a national benchmark hides activities that have critical importance within a regional context.

2. *Other than HE-BCI survey data, what other existing sources of data could be used to inform a framework, and how should it be used?*

The most obvious source of additional data would be the environment and impact sections within REF submissions. This has the benefit of re-using existing information. All Higher Education organizations face increasing burdens in answering numerous requests for data from external bodies. Irrespective of the KE data to be requested, every effort should be made to align with the information already used by HEFCE and other government agencies – including UKRI.

3. *What new (or not currently collected) data might be useful to such a framework?*

It would be useful to take a broad view of the engagement in KE across Universities. For example, Computing Science has a sustained track record in nurturing student-led start-ups; although these may be connected to existing faculty research this is not always the case. Also, student internships and industry projects can be an effective vehicle for small-scale KE. Such enterprises are seldom captured across many of the existing metrics.

It might also be useful to measure the impact that external organizations have upon the development of the curriculum within Universities. This is important for a subject like Computing where KE is a two-way activity. We inform and support industry, government and the third sector. However, many UK departments also pay close attention and respond directly to the needs of industry.

4. How should KEF metrics be visualized to ensure they are simple, transparent and useful to a non-specialist audience?

The UK Computing research community includes World Leaders in data visualization. There are a number of scientific principles that have been translated into engineering practice. For example, data visualizations have to be tailored and then validated against the specific information needs of potential end users. Similarly, attention needs to be paid to the specific information needs that support decision making; this creates different requirements from those that inform more general visualizations. We welcome further dialogue with the task force to explore ways in which different teams of visualization experts within the UK could address this question in a more sustained manner.

5. Any other comments?