

## **European Institute of Innovation and Technology**

### **UKCRC Response to the open public consultation on the EIT**

The UK Computing Research Committee (UKCRC), an Expert Panel of the British Computer Society, the Institution of Engineering and Technology and the Council of Professors and Heads of Computing, was formed in November 2000 as a policy committee for computing research in the UK. Its members are leading computing researchers from UK academia and industry. Our evidence reflects the experience of researchers who each have an established international reputation in computing.

#### ***Q1: How do you perceive the mission of the EIT in the EU context?***

- The EIT is distinctive in an EU context because it stresses the integration, on a European scale, of business, education and research (the knowledge triangle). This emphasis is important in making an effective contribution to innovation in Europe.
- Other organizations nationally share these aims and already are making progress (some of it nationally; some involving international collaboration) and it is important that the EIT acts in synergy with these existing efforts.

#### ***Q7: Are there any other key areas in which the EIT should aim to achieve impact?***

- Innovation in models of intellectual property management that encourage effective sharing of intellectual property to encourage innovation.
- Encouraging innovative approaches to education and training in the context of a knowledge triangle.

#### ***Q17(a): Should the EIT seek to actively generate synergies with other initiatives in the area of education, research and innovation, thereby creating additional value?***

- We strongly agree with this aim. The EIT should draw on the strengths of existing initiatives (in Europe but also more broadly internationally).

**Q17(b): Which ones? And how can strategic coherence be achieved between them and the EIT?**

- Initiatives being taken by national research funding councils (e.g. the Engineering and Physical Sciences Research Council in the UK). These organizations are now more specific about their views of the research landscape and it is important to grassroots research that European and national landscapes are aligned, so as to avoid over or under funding of research areas.
- Initiatives being taken by large scale business-led innovation organizations such as the Technology Strategy Board in the UK. These organizations already invest considerable funding at national level on the interface between business and research with the aim of stimulating economic growth so there is an obvious overlap with the aims of KICs and other EIT interests.
- Thematic initiatives developed by university consortia (e.g. the Scottish Informatics and Computer Science Alliance research pool; the Design London centre) that develop synergies across universities and industry in areas of potential high impact. These provide grassroots connectivity and share resources at a level intermediate between national and institutional.

**Q20(a): How relevant is the participation of the private sector to the success of the KICs?**

- Participation of the private sector is key to the success of KICs.

**Q20(b): What are the main preconditions for high private sector participation in a KIC?**

- Industrial organizations will participate if they see a strong value proposition where they have good access to exploitable IP and other expertise coupled with effective means to help direct the work and manage the risk of participation.
- However, companies are not homogeneous, for large-scale companies factors such as the ability to shape a whole area of activity, priority access to highly trained staff, national political concerns may also be important factors. It may also be that some companies want to foster SME creation since acquisition of SMEs may be a primary route access new research.
- For SMEs the focus is much more on exploitation and immediate impact coupled with the ability to engage and disengage throughout the life of the KIC as dictated by market forces.

- There should also be some emphasis on the quality of private sector participation. In particular, for some large companies, participation in EU-funded research projects is a key performance indicator for their research units. This makes achieving participation relatively easy but the connection of research units to the business units of the company may be weak. Engagement with units in companies that will “make a difference” economically is more difficult and requires high-level engagement from the companies concerned.

**Q22: Are there any OTHER features the EIT should embrace in order to further enhance the KIC model? If yes, which ones?**

- The EIT needs to sharpen its focus and clarify its strategy with respect to geography and co-location. Some of the funded KICs have co-location centres that are effectively entire countries. The need to have a strong geographical focus and a minimum turnover (of say 10-20 MEuro per year) in that location would help reinforce the focused nature of the co-location centres. Since company creation is a key factor in creating a more innovative economy the EIT should give some consideration to the effectiveness and strengths of connection with funders (angels, VCs, banks, etc) to ensure that company creation can be supported effectively within each co-location centre.
- There should be some quite low limit on the number of core partners. The scale of the KICs attracts very large consortia but this dilutes the risk associated with participation in the KIC and complicates KIC management. Consortia with 10-20 European-scale companies involved will struggle to be effective because of the overheads of coordination. Emphasis on participants taking a reasonably large risk share will help avoid this problem and create more motivated KICs. Although choice of core partners is difficult, excessive dilution of risk is a recipe for complacency.

**Q24: What can be the potential benefits of co-location centres for the country/region in which they are located?**

- The main benefit is in the consolidation or seeding of a cluster around the KIC theme. This can have significant economic benefits leading to the growth of a large coherent group of companies that benefit directly and indirectly from the innovation focus of the co-location centre. The educational offerings of the KIC will also bring a stream of well qualified, entrepreneurial people into the region and this can have significant benefit to local employers even though they may not be directly involved in the KIC.

***Q27: Are there any other criteria you would consider relevant for selecting the KIC themes?***

- Level of risk should be taken into account in selecting a KIC. The KIC should not address incremental innovation but should look to support more high-risk, high-return innovation because this area of work has the potential of much higher returns and lower risk innovation will probably be pursued by market mechanisms.
- The KIC theme might be quite broad but should have some clear, focussed, areas with significant market potential. A KIC theme should have the potential to encourage consortia with intensity i.e. a consortium comprising a relatively small number of partners who are prepared to take on very significant roles in building the success of the KIC.
- The public sector is a very significant part of the European economy, so promoting innovation in the public sector and mixed public/private innovation should be given some priority in selecting KIC themes. For example, innovation in approaches to service delivery might have significant innovative potential for the public sector.

***Q29: Are there any other themes you would suggest to be treated in a KIC?***

- Cultural and Creative Industries is a good candidate since this is a highly relevant sector to the European Economy where Europe has great strengths both in the industry and in research. There are very many European companies in this sector with strong needs for research to maintain competitiveness and develop new modes of design, delivery and production that challenge researchers. The phrase the “experience economy” where “experiences” are the traded commodities is relevant to this sector and has huge potential for growth and for developing more efficient methods of production and distribution. Innovative approaches to the service economy is also very relevant and considering how methods of production and delivery could be transformed in services could transform very significant parts of the European economy, including the public sector.
- There may be arguments for cross-cutting KICs that focus on themes that appear across challenges. For example, modelling and simulation is a key component in many challenges but poses strong common challenges across sectors. Not least in this is the need to help the myriad of specialist independent software vendors who sell modelling expertise in specific sectors enrich their IP holding to ensure their sustainability and provide a platform for further development.

**Q30: *What is the ideal scope of a KIC theme? How much leeway should KICs have in defining the specific topic within a broader theme?***

- There is no ideal scope. A KIC theme should have definite potential for significant gross value add during its lifetime and, should require the lifespan of a KIC to achieve its full potential and should be sufficiently high risk and high return that the KIC mechanism is essential to realise the potential of a KIC theme. Given these requirements, KICs can come in different shapes depending on the challenge they address. Some KICs might address “difficult” markets where innovation is needed to release demand into the market while others might tackle a well established market with highly innovative approaches with good long-term development prospects. The second type of KIC is likely to be more focussed with a narrower theme.

**Q31: *Would it make sense to establish several KICs in one and the same theme?***

- Yes, particularly if they are established at different times. For example, if a Climate KIC were to find a range of initiatives that needed the resources of a KIC to develop fully that left a wide range of other areas relatively underdeveloped then it would be appropriate to reopen a KIC call in this challenge area 3 or 6 years after the original call for KICs. If a particular consortium underperforms it might be appropriate to close their KIC and re-call in the same challenge area.

**Q35: *Are there any other elements the EIT should foster in order to unleash the innovative and entrepreneurial potential of people?***

- It has been observed that innovation more often originates in teams with a diversity of perspective and mutual trust. If so, it would be helpful to develop innovation education that builds effective teams and exposes them to a variety of different contexts. This approach would require a significant change in perspective in educational institutions in Europe.
- Beyond teams the key element is the development and transfer of entrepreneurial cultures. The KICs should be encouraged to take measurable steps towards changing the innovation culture around the co-location centres. This would involve working to change the perspective of students away from “safe” government and corporate employment to consider entrepreneurship as a viable alternative. Efforts are needed to enable students to experience what it is like to bring a product to market and create a financial ecosystem around each KIC that eases raising capital and lowering the costs of establishing companies. Linking to established high innovation cultures would also be helpful; for example creating links with the silicon valley region in the US.

**Q37: *The EIT should provide a number of concrete support measures for the dissemination of results from its activities to European innovation stakeholders. What could these support measures be?***

- The KICs should be responsible for developing and measuring the success of their dissemination arrangements. It may be that dissemination mechanisms will differ significantly across the KICs and at the moment the EIT could only attempt to influence this very broadly. For each KIC the EIT should establish good KPIs for the dissemination activity and provide access and dissemination of good dissemination practice so that later waves of KICs can learn from the previous waves of KICs.

**Q38: *The EIT should actively foster the creation of learning communities across the EU. How could the EIT do so??***

- This is the wrong question to ask. The KICs are tasked to create innovation communities and within that learning will be a key element but to some extent within the activities of a KIC learning should be driven from the needs of innovation. Recognising this, within a particular challenge area the EIT should establish KPIs for the KIC that measures the success of the KIC in creating a successful learning support for the innovation community and let the KIC leaders get on with innovating in learning. Across the KICs there should be mechanisms for sharing experience around the creation of learning support for innovation communities so experience from different market sectors can be shared and disseminated.

**Q41: *Which other measures should the EIT take in order to enhance international competitiveness and attractiveness??***

- The EIT should help the KICs build strategic partnerships with internationally leading players in key innovation cultures both in the old and new economies. The goal of these partnerships is to ease the transfer of key elements of innovation cultures into the European context. Many of the KICs have strong links with tier 1 US institutions and the EIT could help develop links around the transfer of innovation culture by strengthening and directing the links towards this kind of transfer. Working with governments in the new economies could lead to the development of bilateral link with particular KICs e.g. with Brazil in Climate KIC to provide satellite nodes of the KIC that reach into regions and economies that offer strong potential for exploitation and partnership in tackling the challenge owned by a particular KIC.

***Q45: Are there any other incentives the EIT shall put forward to KICs in order to achieve growth, impact and sustainability?***

- There should be incentives for the KICs to organise, and quantify additional capital flows into the KICs in order to dilute the KIC share of funding to less than 25% of the overall activity. This sort of argument will play a part in the sustainability argument for the KIC at the time it is awarded but there should be some incentive for the KIC to attempt to generate much higher volumes of activity so that the EIT funding represents less than 25% of overall activity.