A Third Call for Innovation and Knowledge Centre (IKC) Funding

Deadline for Stage 1 Applications: 4pm Thursday 25th February 2010

Together the EPSRC and the Technology Strategy Board propose to fund up to 2 new Innovation and Knowledge Centres (IKCs), each of up to £9.45m support over 5 years.

- Support is conditional upon upfront commitment from business partners.
- Only one bid per lead institution is allowed. Multi-institutional bids are allowable, however this will represent the lead institution's only application in this capacity.
- Proposals must be EPSRC centric however BBSRC may also contribute towards IKCs where proposals sit at the EPSRC/BBSRC interface.
- Proposals that contain over a 50% proportion within the BBSRC remit will not be considered and will be rejected at the outline stage.

IKCs will:

- Promote the early commercialisation of **world class research,** by combining within a single integrated centre the best research with the best business development, market analysis and **commercialisation skills and partnerships to accelerate its exploitation.**
- Be established in an area of '**emerging' technology*** **where world-class scientific breakthroughs have already been achieved, with the potential to bring about paradigm shifts in a broad range of market applications.**
- Provide a flexible early commercialisation programme in an entrepreneurial **environment matched to business and market need to achieve rapid capability building.** Professional relationship management (as well as collaborative research and postgraduate training) is expected to be included.
- **Involve individuals with the calibre, motivations and mindset to really seize the opportunity provided**.
- **Recognise that the best proposals will contain significant risk, but will present clearly the steps proposed to mitigate this.**

* For a definition of an emerging technology please see Annex 1

1. Background and Rationale

Strong on invention but weak on innovation and exploitation of research – this is a comment often made about the interaction between the research base and industry in the UK. It is true that university capabilities and inclinations to work with business have developed considerably over recent years but more can be done, and more is expected from the Government as laid out in the 10 Year Investment Framework for Science published in 2005.

The Lambert Review concluded that the most productive relationships between the science base and industry are enduring and multidimensional – i.e. span research, teaching, communication, consultancy and services.

For radical emerging technologies based on recent research discoveries there is a need to make sure that the early stages of technology development and application build up a strong foundation for future national and regional commercial exploitation. Experience gained from the two pilot IKCs and elsewhere suggests that alongside continued exploration of the underlying science, it is necessary to inject the right mix of business skills, customer engagement, market analysis and technology expertise to realise the full potential of an emerging area of technology. This call aims to build on this learning and further strengthen the model to drive business innovation from new science. Further to the Sainsbury Review (recommendation 2.3) this call provides a flexible mechanism for the regions to further strengthen university and industry links.

1.1. A New Approach

There are a number of different routes by which emerging technologies can reach the market. It can happen through knowledge transfer and interaction with existing business, or via start-ups, or a mix of both. At present there is no mechanism to focus resources on areas with significant economic growth potential. The IKC is a new approach designed to provide the right environment and mix of business and academic skills to drive better exploitation. Successful exploitation will be achieved most easily where there is close interaction between business, end-users and academia through all the stages shown in Figure 1. Both the EPSRC and the Technology Strategy Board support a variety of activities that are designed to encourage the flow of ideas from the knowledge base into the economy. Traditionally most EPSRC funded activities span stages 1 and 2 of the pathway to exploitation, whilst the Technology Strategy Board primarily works in stages 2 and 3 at the later stages of technology application and commercialisation (5-7 years from market).

IKCs seek to integrate all key activities at a much earlier stage of technology development (7-15 years from market), and thereby accelerate their commercialisation through other channels:

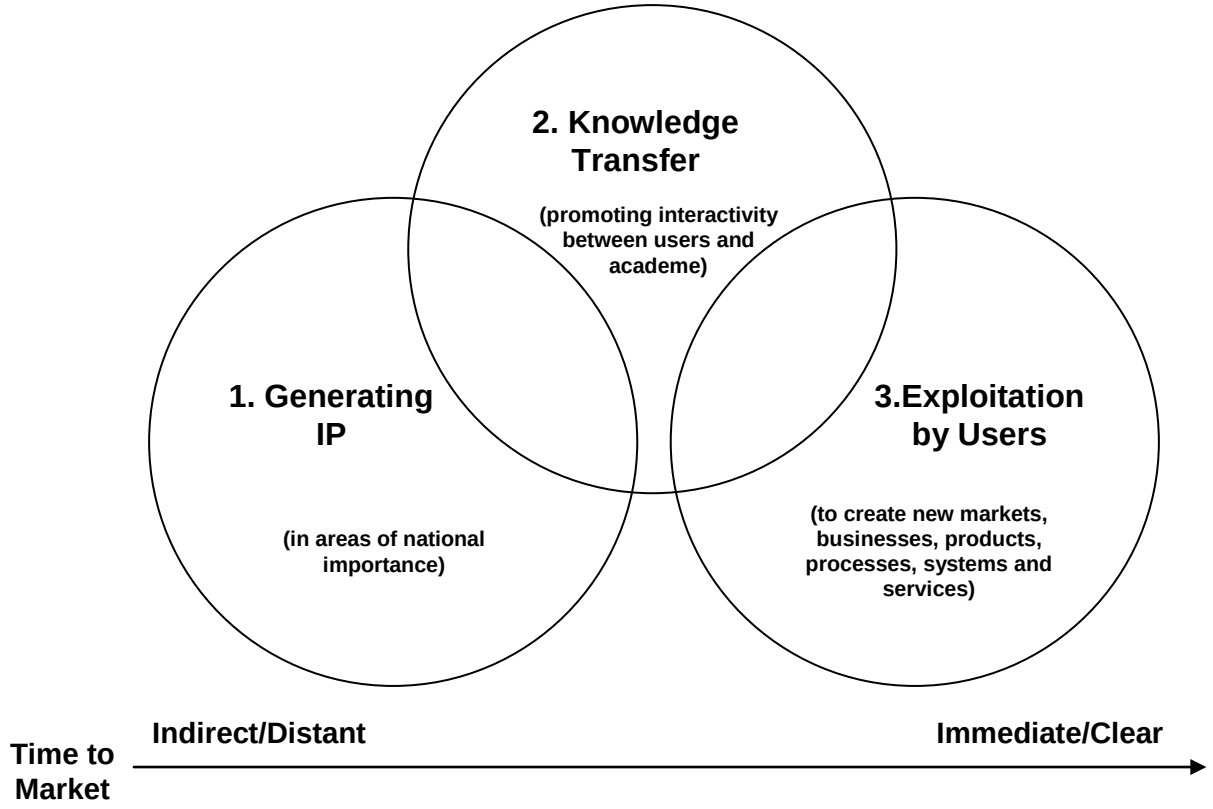

Figure 1 – Key Activities and Pathways to Early Commercialisation

2. What is an Innovation and Knowledge Centre?

The prime goal of an IKC is to accelerate and promote business exploitation of an emerging* research and technology field.

EPSRC-Technology Strategy Board and potential BBSRC support for an IKC will consist of up to £9.45m funding over 5 years. An IKC is expected to:

- Create a shared space and entrepreneurial environment, in which researchers, potential customers and skilled professionals from both academia and business can work side by side to scope applications, business models and routes to market (although an IKC is a physical entity, this does not preclude bids from multiple institutions collaborating on a single site).

- Have the resources, freedom and flexibility to iterate different prototypes and business models.

- Provide a clear strategy for technology-based, market-led innovation in a new area of technology where there is major growth potential and clear evidence of a strong business and/or customer need. IKCs are expected to establish and exploit strong connections with potential customers and markets.

- Provide a focus for many different strands of industry relevant activity, including pre-competitive collaborative research, postgraduate research training, contract research and consultancy, commercialisation, vocational training and CPD.

- Make a contribution to learning about driving effective commercialisation.

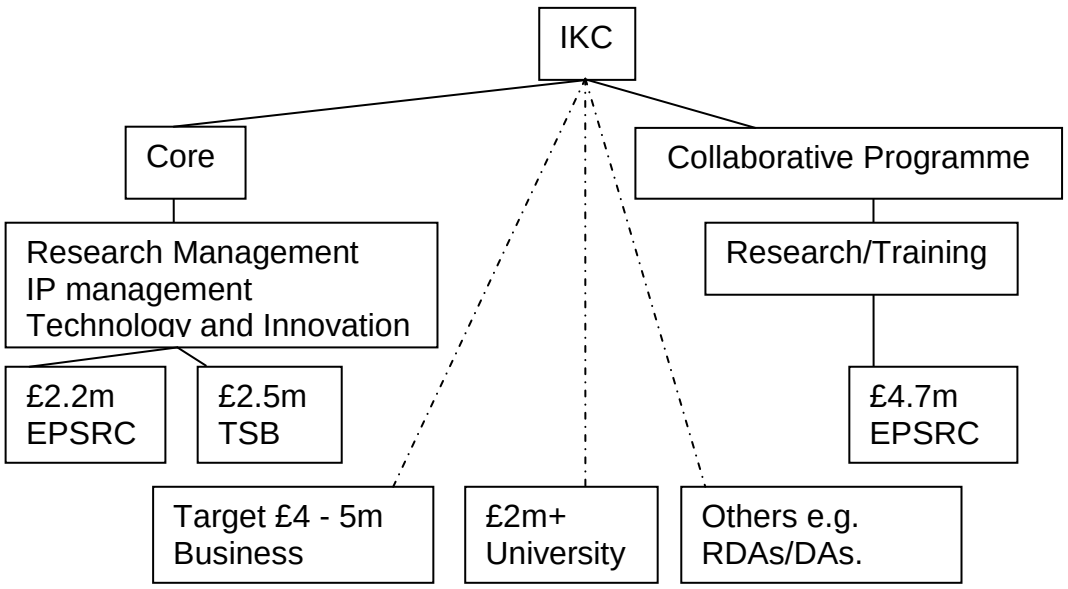

Figure 2 Outline Structure of an IKC

* For a definition of an emerging technology please see Annex 1.

3. Topics/Scope

An appropriate focus for an IKC is:

- An emerging* area of technology that has the potential for high industrial impact and disruption of existing markets, multi sectoral relevance and falls squarely within the EPSRC remit or at the interface between EPSRC and BBSRC.
- A field where research excellence matches market opportunity and UK businesses have both the inclination and the capability/capacity to exploit innovations emerging from the research base.
- An area where the initial proof of concept for the technology has already been demonstrated but the full boundaries for that technology are still to be explored.

In addition to this, an IKC will:

- Specifically meet the longer term R&D needs of business. Continue to explore and strengthen the underlying science to fully define the potential of the technology.
- Bring together people with a wide range of expertise from both an academic and industrial background.
- Work with national and/or regional clusters of business as appropriate to accelerate commercial exploitation.

Emerging technology areas contained within IKC applications are not prescriptive but should be aligned with the priorities of the funding organisations, further details can be found at the respective links below:

EPSRC Delivery Plan:

http://www.epsrc.ac.uk/Publications/Corporate/DeliveryPlan2008-11.htm

BBSRC Delivery Plan:

http://www.bbsrc.ac.uk/publications/policy/bbsrc_delivery_plan.html

TSB Strategy:

http://www.innovateuk.org/_assets/pdf/corporate-publications/technology%20strategy%20board%20-%20connect%20and%20catalyse.pdf

Consideration should also be given to the existing IKC portfolio, the sponsors would not expect to provide support to new IKCs that cover technologies already included within these centres. Further information on the IKC portfolio can be seen at the link below:

http://www.epsrc.ac.uk/ResearchFunding/Opportunities/KT/IKCs.htm

* For a definition of an emerging technology please see Annex 1.

4. How to Apply

Selection of an IKC will follow a 2-stage application process:

Stage 1: **Business Opportunity** - to allow an assessment of "right topic, right team, right time".

Stage 2: **Business Plan** - to allow consideration of the strategy and capability required to achieve the goals of the IKC.

Applications will be judged by an Assessment Panel comprising business leaders and entrepreneurially minded academics.

4.1. Prerequisite Credentials

Research teams require the following prerequisite credentials in order to bid for an IKC:

- Current EPSRC grant portfolio of £3m. This can include Platform Grants, IRCs, IMRCs and any other funding for research directly related to the IKC. For proposals at the BBSRC/EPSRC interface, existing relevant support from BBSRC should also be demonstrated. In exceptional circumstances applications with an existing portfolio of between £2m and £3m will be considered. Should this be required the sponsors must be consulted beforehand and reserve the right to reject proposals on this basis.
- Significant commitment, involvement and contribution from several companies or potential customers/end-users from the public sector. **This should be new support directly related to the IKC.**
- Strong university support through the commitment of at least £2m towards the IKC (e.g. costs of new buildings/refurbishment of existing buildings or redeployment of studentships provided by DTA/CTA provision). **This is in addition to the required university contribution (20% fEC) towards the IKC grant**.
- Evidence of discussions with other sponsors (e.g. RDAs/DAs, Trade Bodies, Government Departments and Funding Councils) with indicative levels of support as available and a strategy for securing additional funding.

5. The Assessment Process

5.1. Stage 1: Business Opportunity

Stage 1 applications will be short-listed based on the Business Opportunity presented by the proposed IKC.

5.1.1. Business Opportunity Assessment Criteria

Stage 1 applications will be judged against the following criteria:

1. Nature of the emergent science and technology that makes it appropriate for IKC support.
2. Evidence for breakthrough nature of technology and proof-of-concept.
3. Initial view of scope of possible applications.
4. Analysis of key risks and barriers to commercialisation.
5. Demonstration of how the IKC will promote early commercialisation and realisation of the technology potential.
6. Evidence of market demand (customer engagement) and potential.
7. Added value/relationship to existing activities (UK/other).
8. IP position and strategy to strengthen existing patents.
9. Track record of team - including evidence of working with business (not necessarily in the same field as the IKC) - and identification of new skills needed.
10. Fit to Technology Strategy Board Criteria: UK capacity to develop and exploit the technology: potential for impact and timescale; size of the global market opportunity; clear Technology Strategy Board role.

Stage 1 applications will consist of:

- A Je-S fEC outline form.
- 4 sides of A4 to describe the Business Opportunity and address the assessment criteria above.
- 1 side of A4 listing all partners (with indicative levels of support where available) and a list of supporting EPSRC (to a value of at least £3m), BBSRC where relevant and Technology Strategy Board grants with grant number, title and value.
- A statement from the host institution – to confirm the commitment of at least £2m support.
- Letters of support from:
    - Business partners – to include indicative co-funding levels.
    - Other interested sponsors – to include indicative co-funding levels and details of what this support is likely to contribute towards.

Applications will be judged by an Assessment Panel comprising business leaders and entrepreneurially minded academics. Short-listed universities will be invited to submit a detailed Stage 2 Business Plan with pre-defined levels of support available, describing how the IKC will be delivered and managed. **EPSRC envisages inviting no more than five teams to develop full (Stage 2) Business Plans.**

5.2. Stage 2: Business Plan

Full details including the assessment criteria for the stage 2 process will be sent to successful stage 1 teams. Indicative requirements for supporting evidence are summarised here. The assessment of Business Plans will include an Assessment Panel interview with the IKC team.

5.2.1. Business Plan Content

It is important that the following details are provided within an IKC Business Plan:

- A mission statement (description of the vision and goals) for the IKC.
- An outline of the research themes that the IKC will focus on. At this stage **in-depth detail of the research/training activities planned is <u>not</u> required** (a key aim of IKC funding is to allow teams to develop these activities in close partnership with industry).
- An explanation of the IKC management structure.

The IKC will be selected based on the strength of the "**Strategy"** and "**Capability"** presented in the Business Plan, consideration should be given to the following aspects:

Strategy

1. Approach to optimising technology development and commercialisation, exploiting research excellence.
2. Initial target market and route to entry, including evidence of business/customer demand and approach to overcoming key challenges and risks.
3. International competitive advantage of the IKC.
4. Approach to scoping and delivering wider technology and market potential including key applications to be prototyped and evaluated.
5. Initial and anticipated future engagement with business, including ways of working projects, respective roles and future income projections.
6. Ability for the IKC to secure additional funding.
7. Plans to exploit existing IP and requirements for future IP development.
8. Five year plan, setting out steps to achieve goals, critical milestones and likely outputs. This should also highlight key risks and a plan to mitigate them.

Capability

9. Leadership and a clear and robust organisation and management structure.
10. Shared vision and goals. Plans to build a close and effective team to deliver the IKC strategy.
11. Core team skills and competencies required, recruitment needed and sources of possible candidates. Consideration should be given to secondments from business to fill key commercialisation roles.
12. Facilities and environment. Creative use of space and local connections.
13. Approach to learning and building capability in driving early commercialisation.

Stage 2 applications will consist of:

- A Je-S fEC grant proposal form.
- A 10 page case to describe the Business Plan, addressing the assessment criteria above (see Annex 1 for further information on what to include).
- A statement from the host institution – to confirm what the commitment of at least £2m will provide.
- A justification of resources.
- A work-plan.
- Letters of support from:
    - Business partners – to explain why the IKC is relevant to their business and to include realistic targets for their contribution. (A distinction should be made between cash and in-kind contributions).
    - Other sponsors – to include indicative co-funding levels and details of what this support will contribute towards.

6. Resources

EPSRC and TSB funding is available to support two IKCs. BBSRC may also contribute towards IKCs where proposals sit at the EPSRC/BBSRC interface. EPSRC support for an IKC will consist of a mixture of funding for **Core Knowledge Transfer Services** and **Earmarked Collaborative Funding**. As already highlighted, this is **conditional upon additional upfront commitment from industry and other sponsors** (see IKC Funding Model below).

6.1. The IKC Funding Model

- **Up to £6.95m** - EPSRC support over 5 years.
- **Up to £2.5m** – Technology Strategy Board support over 5 years.
- **£2m** - University commitment (e.g. costs of new buildings/refurbishment of existing buildings or redeployment of studentships provided by DTA/CTA provision).
- **Target of £4-5m** - Additional substantial income from commercial activities and business partnerships for work directly related to the IKC.
- **As appropriate** involvement of other sponsors (e.g. RDA/DAs, Trade Bodies, Government Departments and Funding Councils).

Table 1 – Typical Five Year Funding Model for an Innovation and Knowledge Centre

	EPSRC	Technology Strategy Board	University	Other Sponsors	Business	Total
Core Research Staff	£2.2m		£2m + £1.74m (20% fEC)	?	0.75	
Core Commercialisation Support Staff		£2.5m			0.75	
Collaborative Programme	£4.75m Earmarked	May apply for additional funding.		?	£3m	
Total	£6.95m	£2.5m	£3.74m	?	£4.5m	£18.69m

6.1.1. How IKC Funding Will Be Awarded

EPSRC and Technology Strategy Board funding for Core Knowledge Transfer Services (£4.7m) will be committed to the IKC from day 1 of support and will be provided in the form of a research grant of 5 years duration. EPSRC Earmarked Collaborative Funding (£4.75m) will be available from year 2 and will be released in 2 tranches (subject to satisfactory progress assessment).

In order to secure Earmarked Collaborative Funding an IKC will be required to provide the following information at key stages in the lifetime of the IKC grant:

Stage	**Information Required**
9 months	Progress report and case for support describing forward plans for research and training.
End of year 2	Progress report and case for support describing forward plans for research and training.
End of year 3	Progress update. (The need for this will depend on the outcome of the year 2 review).

A panel, comprising members of the Assessment Panel that reviewed the initial IKC bids, will consider the case for support and subsequent progress reports. IKC teams will be

expected to demonstrate that all activities have been developed in close partnership with industry and the IKC programme of research and training is expected to evolve over the 5 years funding to reflect this.

6.1.2. Core Knowledge Transfer Services

The primary aim of Core Knowledge Transfer support is to establish a capability within an IKC to support business-university interactions, and actively promote commercial opportunities. It will support the infrastructure through which collaborative, entrepreneurial and commercial activities can be effectively managed. However, please note that **our funding will not cover buildings costs.** This core support will provide continuity funding during the growth period for the centre, and also minimise the risk to the university in establishing viable commercial services. It will also be used to support key personnel and core facilities and equipment, and for example might typically support the costs of:

- Research Staff including:
  - A half time centre director
  - 3 – 4 experienced research staff.
  - Technical and professional support staff.

- Staff supporting technology commercialisation with expertise in eg
  - Marketing.
  - Business modelling
  - Scoping applications for emergent technologies and technology development.
  - Market analysis and development.
  - Customer engagement
  - Supply Chain/Manufacturing
  - IP management.

- Facility/equipment operating costs.
- Development of business development skills amongst technical personnel.

Applicants should not be restricted by the above lists, they are provided solely for guidance. In relation to the commercialisation personnel, applicants will have considerable flexibility about how this money can be used but must specify their intentions within their proposal and show how they are linked to commercialisation. There could for example be a mix of some core individuals who are present throughout and individuals associated with particular applications who spend shorter periods of time in the IKCs.

See Annex 2 for additional information on Core Knowledge Transfer Funding.

6.1.3. Earmarked Collaborative Funding

As explained above, **Earmarked Collaborative Funding will only be released to support activities directly related to the IKC where there is a significant commitment, involvement and contribution from business**. Earmarked funding can be used to support any legitimate collaborative research or training activity.

See Annex 2 for additional information on Earmarked Collaborative Funding.

7. Call Timetable and Application Procedure

Call announced	30th November 2009
Closing date for stage 1 applications	25th February 2010
Stage 1 decisions announced and stage 2 applications invited	By 7th May 2010
Closing date for stage 2 applications	29th July 2010
Assessment Panel	September 2010
Stage 2 decisions announced	October 2010
Successful IKCs start	31st January 2011

You should submit your proposal using the Research Councils' Joint electronic Submission (Je-S) System (https://je-s.rcuk.ac.uk/). When adding a new proposal, you should select Council 'EPSRC', document type 'Outline Proposal/Standard Proposal/' and the 'Outline/Standard/' Scheme. On the Project Details page you should select the 'Integrated Knowledge Centres' Call. Details of which Research Organisations have registered to use Je-S are available from http://www.pparc.ac.uk/jes/jes1/RODetails(Web).pdf.

Note that clicking 'submit document' on your proposal form in Je-S initially submits the proposal to your host organisation's administration, not to EPSRC. EPSRC must receive your outline (Stage 1) and full (Stage 2) applications by **4pm on 25th February 2010** and **4pm 29th July 2010 respectively**. Please remember to allow sufficient time for your organisation's submission process between submitting your proposal to them and the Call closing date.

Guidance on the types of support that may be sought and advice on the completion of the research proposal forms are given on the EPSRC website (http://www.epsrc.ac.uk/ResearchFunding/HowToApply/default.htm) which should be consulted when preparing all proposals.

Contact details for further information:

Robert Heathman robert.heathman@epsrc.ac.uk 01793 444374	Paul Mason paul.mason@tsb.gov.uk 01793 442725
Ross Barnes ross.barnes@epsrc.ac.uk 01793 444 368	Emily Nott emily.nott@tsb.gov.uk 01793 442766
Alex Chaix Alex.chaix@bbsrc.ac.uk 01793 443 237	

Annex 1

Definition of an emerging technology

- 7 – 15 years from final product launch (Note IKCs are expected to be at the nearer point of this range).
- Disruptive i.e. either making something possible which is currently not and/or a radical new way of doing things. Therefore, this might be in either performance or precision or convenience or scale or cost.
- With major potential to build a dominant IP position
- With large market potential (Truly disruptive technologies may create a whole new sector of industry and have considerably greater value therefore).
- Based on a scientific breakthrough, which itself by that time is well established so that applications can be considered.
- Centred on a UK leader with the vision and purpose to drive the development of the technology.
- With wide possible scope for applications – it is recognised that these may not yet be well defined and may not fit current categories.
- Considerably upstream of activities in the current Technology Programme
- With an impact on quality of life.

Annex 2

Resources (additional details)

Core Knowledge Transfer Services

Core Knowledge Transfer funding will allow the core IKC team to develop, manage and promote the IKC knowledge transfer portfolio. IKCs will be expected to create, market and then operate professional commercial services for business. Core KT funding is flexible and could be used for example to support business engagement in short scoping, demonstration and feasibility studies. More substantive research and training activities will be supported through the Earmarked Collaborative Programme, also managed through the core team.

Commercial services, for example consultancy, advisory work and contracts, contract research, technical services, commercialisation of facilities etc, are an essential component of the IKC knowledge transfer portfolio, and should feature strongly within the IKC business model and plans for long term sustainability.

It is important that support does not distort the 'market'. IKCs will charge the full market rate for any commercial services provided, to ensure no direct and overt subsidy for business and no anti-competitive practices in relation to other providers e.g. other universities, RTOs, commercial research and consultancy services etc.

Earmarked Collaborative Funding

Additional support

IKCs will be expected to secure additional funding to expand their Collaborative Programmes.

- EPSRC earmarked funding will only be released to support activities where there is a significant commitment, involvement and contribution from business (target £4 – 5m to the IKC over 5 years).
- IKCs are expected to be proactive in seeking funding from other sponsors. This might include funding from other sources such as the RDAs/DAs, LINK, Technology Programme, and from other Technology Strategy Board Products either to support the IKC directly, or as funding to support the business collaborator(s).

How Earmarked Collaborative Funding will be Awarded

Although EPSRC Earmarked Collaborative Funding is effectively promised to an IKC, there will be no compromise on the 'quality' of supported activities. IKCs will be subject to number of progress reviews as described in section 6.1.1 of the main call document.

Outreach component

It is unlikely that all relevant national and international expertise and capability will be located within a single IKC, therefore an outreach component is desirable. A proportion of the EPSRC Earmarked Collaborative Funding will be awarded to external university research groups - either for joint or self-standing projects and training. The aim is to create a portfolio of collaborative research and training activity, tightly integrated with the capability established within the IKC. Proposals to collaborate with research teams outside the IKC should be included within the Stage 2 Business Plan.