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**REPORT ON THE EVALUATION OF OUTCOMES FROM  
BBSRC SUPPORTED KNOWLEDGE TRANSFER  
PARTNERSHIPS**

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To: The Biotechnology & Biological Sciences Research  
Council (BBSRC)

From: Momenta, Managing Agents of the Knowledge Transfer  
Partnership programme

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## **Executive Summary**

This project was commissioned by BBSRC and the DTI and undertaken by Momenta (The Managing Agent for the delivery of KTP) from June to November 2005.

### **Introduction:**

Knowledge Transfer Partnerships (KTP) is a Government wide initiative aimed at helping businesses improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base. Formally known as the Teaching Company Scheme (TCS), the Programme has been running successfully for 30 years.

BBSRC are one of the sponsors of the Knowledge Transfer Partnerships Programme (KTP)<sup>1</sup>. In recent years the number of partnerships supported by BBSRC has fallen substantially, with 17 partnerships ongoing in 2003-04, but only 6 supported in 2004-05. This decrease in partnerships has led to BBSRC reducing its support for the programme accordingly and has highlighted the need to better understand the impact of BBSRC sponsored KTPs on the bioscience community, specifically the knowledge base, companies and on the KTP students ('Associates').

This report provides both a semi-quantitative analysis and a qualitative assessment of the longer-term outcomes of KTP projects supported by the BBSRC.

### **Objectives of the research review:**

The objectives of the review were as follows:

- To carry out a review of completed KTP projects sponsored by BBSRC.
- To establish the benefits and disadvantages gained by each member of the partnership, including an examination of any further ongoing collaboration and knowledge transfer activity.
- To answer the specific questions:
  - “Do Knowledge Transfer Partnerships meet the needs of the bioscience community, and if not, what barriers (and possible) solutions are there?”
  - “Do Bioscience KTPs represent value for money for all partners?”

### **Methodology:**

The review was carried out using a two-stage questionnaire based approach with an initial sifting questionnaire followed by an in-depth questionnaire. Of the 65 partners contacted to take part, 38 responded (58%), out of which 20 agreed to complete the full in-depth review (31%). All partnerships had been completed, with 8 completed at least 2 years ago. Of these 20, 14 were a “match”, i.e. both company and academic partners agreed to participate in stage two of the review. Furthermore, two of these formed a complete partnership, where the Associate was still employed at the company. The questions asked covered a range of topics pertaining to the impact and outcomes of the KTP partnerships and were either semi-quantitative or required text answers. The findings of both reviews are analysed herein.

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<sup>1</sup> Formally known as the Teaching Company Scheme

## **Key Findings:**

### **Sifting questionnaire:**

All of the knowledge base organisations that responded to the sifting questionnaire indicated that KTP had been of at least minor benefit to the organisation, with 78% claiming a benefit or a substantial benefit (on average and on a ranking of 1 (no benefit)-4 (substantial benefit), benefit was rated as 3.1). Companies reported less of a benefit although the average ranking of 2.5 did include 38% of companies claiming a benefit or a substantial benefit. Only among companies did any organisation (one) claim that KTP had provided no benefit.

The major three benefits to the knowledge base were: industry links, financial; and contributions to teaching. Companies stated that academic links, increased technical capability and strategic gains were the major benefits of the partnerships. Eight out of 23 Associates had stayed with the companies, of which 2 had left following takeovers.

### **In-depth Questionnaire: Partnership Analysis:**

Feedback from respondents suggested that for most KTPs the knowledge base partner achieved the most positive experience and benefited in both the short and longer-term. Company partner benefits were less strongly felt, and more dictated by commercial gain. In general however, the partnership outcomes were successful in terms of meeting the initial expectations of the partners. For Example, one company partner comments:

- *“From the increased knowledge from the new techniques it [KTP] enabled the Company to approach new potential clients with confidence”*

The Knowledge Base partner commented that:

- *“The KTP...had a beneficial impact on the University by providing an interactive framework for the exchange of information and development of further interactions with RDAs on a systematic basis.”*

The responses identified that more than 50% of partners are still involved in ongoing collaboration, or would consider future collaboration. Out of all the responses one company partner reported that the partnership impact was *“insignificant”* and one partner agreed that the KTP was not considered a success. On this occasion however, both partners maintained that these difficulties were a result of the company change, and maintained that they were still interested in using KTP in the future.

### **The Knowledge Base Partners**

The partnerships under review stated that KTP had been of benefit and had lead to contributions to the teaching and research within the department/University (including published papers and/or papers in preparation), and increased collaboration with the company as a result, including follow on KTPs for example: *“Research is continuing based on the [results from the KTP]. Two projects are ongoing, one undergraduate and one MPhil.”*

Of those Knowledge base organisations who took part in KTP Strathclyde University leads the way in general with 23 current partnerships. The findings for the Bioscience KTPs compared favourably with those in the wider KTP community as noted in the 2004/-5 Annual report.

The majority of organisations reported that the partnerships had not resulted in commercial gains for the knowledge base, however financial gain was not the motivation for taking part in the process. When asked to comment on the overall impact of KTPs on their organisations, all respondents were positive, e.g. *“The type of work carried out in this and similar projects is very valuable in bringing a real-world balance to other research themes and also teaching. It is*

*reassuring to know that developments have a genuine impact and also the awareness among students that we are successfully involved in such areas of work does have a significance to student”.*

## **Company Partners**

Company partners had a less favourable experience of KTP than did the knowledge base. The strongest motivation for companies getting involved in KTP were: improving technical knowledge, increasing links with academia and improving management skills. While all the companies concerned all highlighted an increase in technical knowledge, and had maintained links with academia since completion of the KTP, less than 50% reported an increase (or likelihood of an increase) in profitability as a result of the KTP. The reasons focussed on changes in market requirements and in company priorities and reflect the rapid changes within the bioscience company marketplace. Financial benefits in particular compared poorly with the wider KTP programme company benefits, with only 23% of companies rating improved finance as being an outcome from the KTP. While this compared well with the expectation of commercial benefit from IP of 24%, it compared poorly with the 81% that viewed the results of KTP as making a significant contribution to company performance.

Unfortunately, the review was only successful in engaging with one of the **Associates** who had stayed on in the company, whose comments revealed a positive experience of the KTP, stating an increase in management skill to be the most significant benefit of the KTP experience.

### **“Does KTP meet the needs of the bioscience community?”**

The responses, most particularly those from the knowledge base, suggested that the KTPs had met the majority of their needs with regard to improving knowledge transfer – in terms of technical knowledge and management skills, and contributing to teaching and research. In addition a number of the partnerships were successful monetarily and have contributed to increasing company intellectual property. KTP was less successful for the bioscience companies involved. Purely in percentage terms the commercial benefit/ expectation of commercial benefit through intellectual property compares well against that noted for the wider KTP community (28 vs 24%<sup>2</sup>).

Findings from the review suggest that barriers to KTP meeting the needs of bioscience companies include:

- The shifting market needs and rapid change within the bioscience industry
- The requirement for long lead times with IP based products.
- A lack of case study material that is suitable across what is a very diverse market sector.

### **”Do KTPs represented value for money for all partners?”**

Feedback on KTP from those taking part in the review was generally positive from the knowledge base partners, with clear benefits identified in terms developing technological skills, links between industry and the knowledge base, contributions to teaching and research. Indeed the majority of knowledge base partners have continued to participate in knowledge transfer programmes indicating that they viewed the scheme as providing value for money.

The company partners claimed similar motivations for taking part in KTP to the knowledge base, however purely in terms of commercial gain, the majority of companies may not have felt that

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<sup>2</sup> From the KTP Annual Report 2004/05.

they had “value for money”. This is reflected in only three of the company partners expressing the desire to take further part in KTP, although four companies have continued to collaborate with the knowledge base, one through a KTP and another in requesting discussions with a KTP adviser to review options.

### **Recommendations:**

Further to the qualitative and quantitative analysis, the review team are able to present the following recommendations:

### **Recommendations for the wider KTP programme**

1. Given the *generally* positive findings of the review, in particular with the knowledge base partners, we would recommend an increase in the sector specific marketing of KTP, particularly emphasising the contributions to teaching and research (including the possibility of peer-reviewed papers), links with industry and general knowledge transfer. This should include the marketing of KTP to partners involved in existing KTPs in order to facilitate ongoing partnerships for the future. The KTP marketing team should be able to provide support for such activity.
2. If required KTP Advisers and Momenta regional development managers are available to contribute to such in sector specific marketing/networking.
3. Given the range of feedback from the companies regarding KTP and its impact, we would recommend that the Partnership Approvals Group (PAG) continue to take particular care when reviewing the business case and strategies of any KTP outline application received. From the review it seems that a solid business case and a strong market analysis will be a factor in whether or not the eventual KTP is a success.
4. Given the volatility in the bioscience commercial community it may be worthwhile for the KTP programme to market business process or indeed marketing programmes to that community, rather than focusing entirely on biotechnology and biological science. Such KTPs would need to be funded by sponsors other than BBSRC. However, BBSRC could aid the KTP programme team by providing bioscience networks and contact information.
5. The rapidly changing nature of the bioscience business community meant that it was very difficult to find and then persuade company partners to take part in this review. With long-term outcome reviews of increasing importance when evaluating programme success, we would recommend to all sponsors of KTP that the programme make a greater effort to keep in touch with completed partnerships and Associates. Indeed, and partly as a consequence of this review, the KTP programme team is currently investigating mechanisms for establishing longer-term relationships with completed partnerships and Associates (for example, securing a commitment to further contact in the application form and final report) with the aim to implement these processes in the near future.
6. The KTP programme could attempt to better manage the expectations of companies, as appropriately identified through the application process, in order to successfully manage the expected outcomes of involvement in KTP. It should be noted however, that the KTP programme team and Advisers are already addressing these issues as is evident through the “New Partnership Workshops”.

### **Recommendations for BBSRC**

7. The KTP Offices have a communication route through to the lead Sponsor (DTI) using the KTP National Forum meetings. These meetings are held quarterly at the DTI and are attended by representatives of KTP Office Managers in the regions, most of whom have strong links with their academic departments. The BBSRC supported knowledge base may well benefit from presenting to this forum, thereby increasing the KTP offices awareness and understanding of BBSRC criteria and the success to date of BBSRC KTPs, particularly with the knowledge base.

8. As far as the marketing to companies is concerned, we would recommend increased direct and if possible one-to-one marketing to companies using two of the partnerships reviewed herein as case studies. The KTP marketing team should be able to provide support for such activity.
9. The results of the BBSRC review should be considered against the benefits demonstrated in other reviews undertaken by individual KTP sponsors. While Momenta were able to make some useful comparisons with the overall programme, we were not able to compare the BBSRC partnership outcomes with those of any other individual sponsor. (Note: ESRC have recently commissioned a review of its support to KTP).
10. If any of the Regional Development Agencies new to KTP decide to include the biosciences within their regional strategies, Momenta recommend BBSRC considering collaborative KTPs. However, we recognised that BBSRC are a national sponsor and that of the RDAs currently looking to join the programme, none have biosciences within their criteria.

## 1.0 Introduction

### 1.1 Background

Knowledge Transfer Partnerships (KTP) is a Government wide initiative aimed at helping businesses improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base. Formally known as the Teaching Company Scheme (TCS), the Programme has been running successfully for 30 years and is now recognised as Europe's leading programme<sup>3</sup> helping businesses in knowledge transfer.

As of November 2005 total sponsorship of ~£30million pa for KTP has been provided by a number of publicly funded organisations, as follows:

- Arts and Humanities Research Council (AHRC)
- Biotechnology and Biological Sciences Research Council (BBSRC)
- Department for Environment, Food and Rural Affairs (Defra)
- Department of Health (DH)
- Department of Trade and Industry (DTI)
- Economic and Social Research Council (ESRC)
- Engineering and Physical Science Research Council (EPSRC)
- European Social Fund (ESF)
- Invest Northern Ireland (INI)
- Natural Environment Research Council (NERC)
- One NorthEast (ONE)
- Particle Physics and Astronomy Research Council (PPARC)
- Scottish Executive (SE)
- Welsh Assembly Government (WAG)

BBSRC has provided sponsorship to KTP since the early 1990s, peaking in terms of numbers in 2000 with the award of 13 new partnerships. BBSRC sponsored partnerships have covered a wide range of subject matter from developing novel molecular probes for DNA detection and analysis to developing and commercialising a method for controlling fertility in domestic animals.

In recent years the number of partnerships supported by BBSRC has fallen substantially, with 17 partnerships ongoing in 2003-04, while only six were receiving ongoing support in 2004-05. This decrease in partnerships has led to BBSRC reducing its support for the programme. Indeed, as of 2004/05 BBSRC's support for the programme was equivalent to that from NERC and PPARC at ~ one complete new partnership pa. This compares with support from ESRC and EPSRC of ten and five times that number, respectively. This decrease in partnerships has highlighted the need to better understand the impact of BBSRC's KTPs - on the Associate, the Company and the Knowledge base organisation.

### 1.2 KTP Review

At present all KTP projects are reviewed upon completion through an analysis of outputs, i.e. the immediate, visible, concrete and tangible consequences of a project, after which the KTP programme has minimal or no further contact with companies or the knowledge base unless they become involved in subsequent partnerships. These outputs are reported upon annually in terms of company, knowledge base and associate benefit. For example, the 2004/05 KTP annual report showed 55% of completed partnerships were rated by assessors as 1 or 2, that is

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<sup>3</sup> KTP Annual report 2004/5

they were regarded as being 'excellent' or 'very good'. Eighty one percent of companies reported an increased profitability as a result of the KTP (the overall one-off increase per Associate was £49K in 2004/-5, an increase on 2003/04 of £11K), while the knowledge base reported benefits through staff development (93%), research (88%) and teaching contributions (85%). Programme benefits in detail can be found in the Annual Report.

While the KTP outputs analysis is thorough and quantitative, a more complete evaluation of the longer-term impact of an individual project requires an analysis of the Programmes long-term outcomes, i.e. the short-medium term effects of the project generally at the level where the beneficiaries or end-users take ownership and KTP funding comes to an end. Such outcome analysis is challenging, and requires a detailed investigation of both quantitative and qualitative data from projects.

This project to undertake such an outcomes review was undertaken by Momenta (The DTI's Managing Agent for the delivery of KTP) from June to November 2005. The research was funded by BBSRC with additional funding from DTI. Findings from the review are available for a more detailed benchmarking against other KTP sponsors.

### **1.3 Objectives**

The objectives of the review were as follows:

- To carry out a review of completed KTP projects sponsored by BBSRC.
- To establish the benefits and disadvantages gained by each member of the partnership, including an examination of any further ongoing collaboration and knowledge transfer activity.
- To answer the specific questions:
  - "Do Knowledge Transfer Partnerships meet the needs of the bioscience community, and if not, what barriers (and possible) solutions are there?"
  - "Do Bioscience KTPs represent value for money for all partners?"

### **1.4 Limitations**

The review was limited to those partnerships that received BBSRC sponsorship support and that had been completed (the most recent was completed in January 2005). Where possible the review engaged with the knowledge base, the company partner and the Associate to provide a complete matched response for each partnership. The intention was to enable a balanced analysis of both the benefits and disadvantages for each of the partnerships to be undertaken.

Due to difficulties in gaining a matched response via the sifting questionnaire (Section 3 of this report) it was agreed that that the research team would also seek responses from non-matched partners. This increased the number of responses, primarily for the knowledge base partners, but did not necessarily provide the ideal balanced view. Indeed it could be argued that partnerships likely to be willing to take part in the review were those that had had a positive experience of KTP. However, this may not necessarily have been the case, as a number of the original company contacts were simply not contactable.

Further limitations on the review process were the accuracy of information held on the KTP database. Currently there are no requirements for the partners to take part in longer-term reviews of the outcomes to their partnership. They are not required to provide up-to-date contact information and have the opportunity to request that they are no longer contacted. As a result, more time than expected was spent obtaining clean data before the review could start.

## 2.0 Methodology

The methodology used in the research review was agreed with BBSRC and periodically adjusted as the review progressed in order to try to engage with more 'matched' partnerships. An agreed timetable for completion of the review was set and regular communication through the use of telephone conference calls and emails kept BBSRC updated on progress. The questions in both the sifting questionnaire and in stage two of the research - the in-depth questionnaire, were set following consultation between the review team and the BBSRC. Both questionnaires required a mixture of both quantitative and qualitative responses.

The review commenced by examination of the KTP database, identifying a list of completed partnerships that had received sponsorship from BBSRC. Knowledge base and company contacts from these partnerships were sent the sifting questionnaire.

Each contact was sent a standard email, detailing the general aims and objectives of the review and which sought their agreement to complete the sifting questionnaire. The review team used a mixture of follow up email and telephone calls to facilitate as many responses as possible. The sifting questionnaire asked for participants to agree [or not] to take part in an in-depth questionnaire.

Results of the sifting questionnaire were analysed and led into the in-depth questionnaire.

Following the sifting questionnaire those partnerships agreeing to take part were sent the in-depth questionnaire.

To increase the number of "matched" partnerships willing to participate in the in-depth questionnaire, the review team (in agreement with the BBSRC) spent some time making follow-up contact to encourage participation from those partners who had responded negatively to taking part in the in-depth questionnaire.

The analysis of the sifting and in-depth questionnaires has been approached in two ways:

- By examination of the collective responses by Knowledge Base Partner, by Company and Associate, enabling a semi-quantitative and qualitative analysis of text responses for each partnership (Section 3 for the sifting questionnaire, Section 4 for the in-depth questionnaire).
- By examination of partnerships by general themes (e.g. motivations, benefits in terms of intellectual property, training, research etc), enabling a comparison of the outcomes of the partnerships on the knowledge base verses the company partners (Section 5).

## 3.0 The Sifting questionnaire

### 3.1 Introduction

This section of the report examines the responses to the sifting questionnaires.

BBSRC agreed that the sifting questionnaire should be sent to 95 completed partnerships. These partnerships ranged from those most recently completed (22/01/05) to partnerships that had been completed in 1995.

A large proportion of these contacts were unavailable where by:

- The company no longer existed or had moved location
- The individuals involved in the existing Partnership had left
- The contact data was out of date.

The final list of contacts was reduced to the following:

Company contacts – 24 sent the sifting questionnaire (out of the agreed list of 45)

Academic contacts – 41 sent the sifting questionnaire (out of the agreed list of 50)

Each contact was sent an email, detailing the general aims and objectives of the research review and the sifting questionnaire.

- From the 65 partnerships contacted, 36 responded (55%) – (Seven years since the oldest completed and one year since the youngest completed).
- 20 out of the 36 partnerships agreed to take part in the in-depth questionnaire - (Four and a half years since oldest completed to one year since the youngest completed)
- 14 of those agreeing to take part in the in-depth questionnaire were a “match” – both company and academic partners agreed to participate in stage two of the research review. (Two years and four months since the oldest completed, 18 months since the youngest completed).
- Two of these formed a complete partnership, where the Associate was still employed at the company.

### 3.2. Results

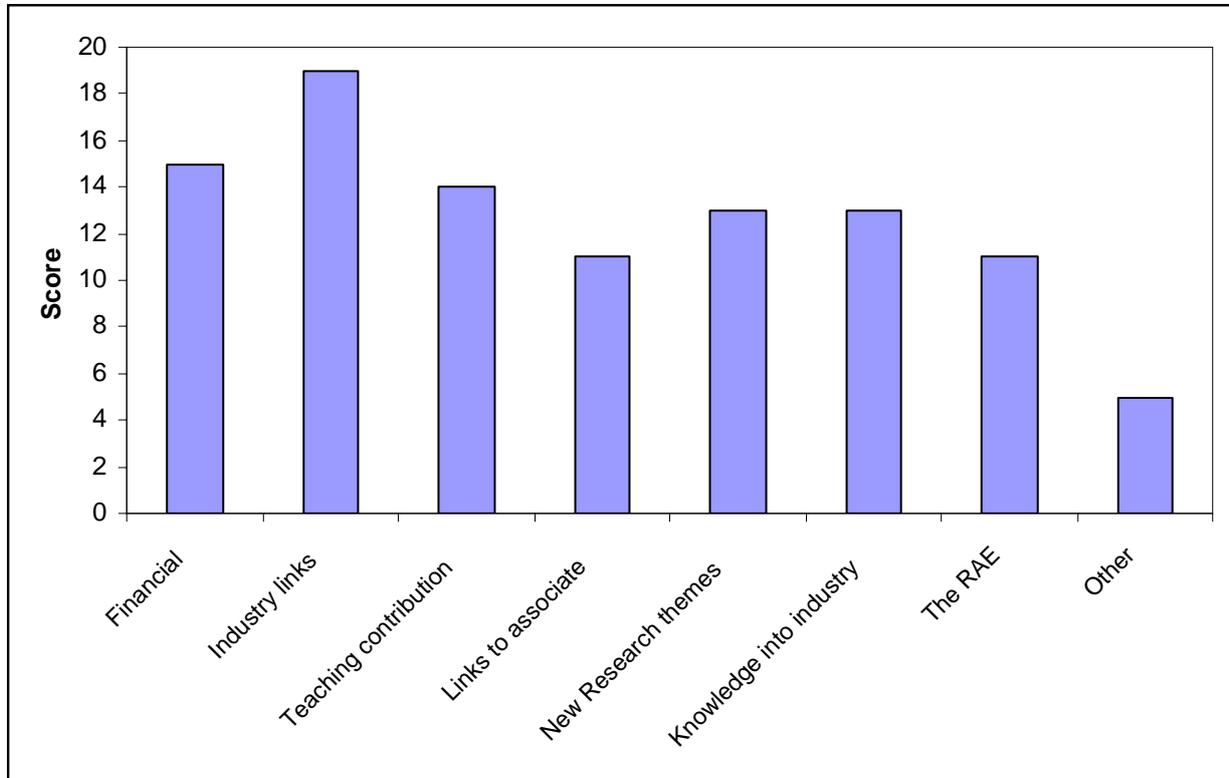
Table 1 shows how the knowledge base and company partners rated the benefit that they had received from taking part in KTP.

**Table 1: The average partner benefit ratings for KTP. Benefit is ranked as: 1 none, 2 minor benefit, 3 benefit, 4 substantial benefit.**

<b>Benefit rating</b>	<b>Knowledge Base</b>	<b>Company</b>
Substantial benefit	7 (incl. 1 at 3.5)	2
Benefit	12 (incl. 1 at 2.5)	3
Minor Benefit	4	7
No benefit	0	1
<b>Average benefit</b>	<b>3.09</b>	<b>2.46</b>
Respondents total	23	13

Figure 1 shows the how the knowledge base partners rated each of the specific benefits. It is clear from this figure that for the 23 knowledge base partners that took part in the sifting questionnaire, industry links, financial benefit, contributions to teaching & research and knowledge being transferred into industry were the most commonly noted benefits.

**Figure 1: Knowledge base benefits from completed KTP projects**



**Figure 2: Company benefits from completed KTP projects**

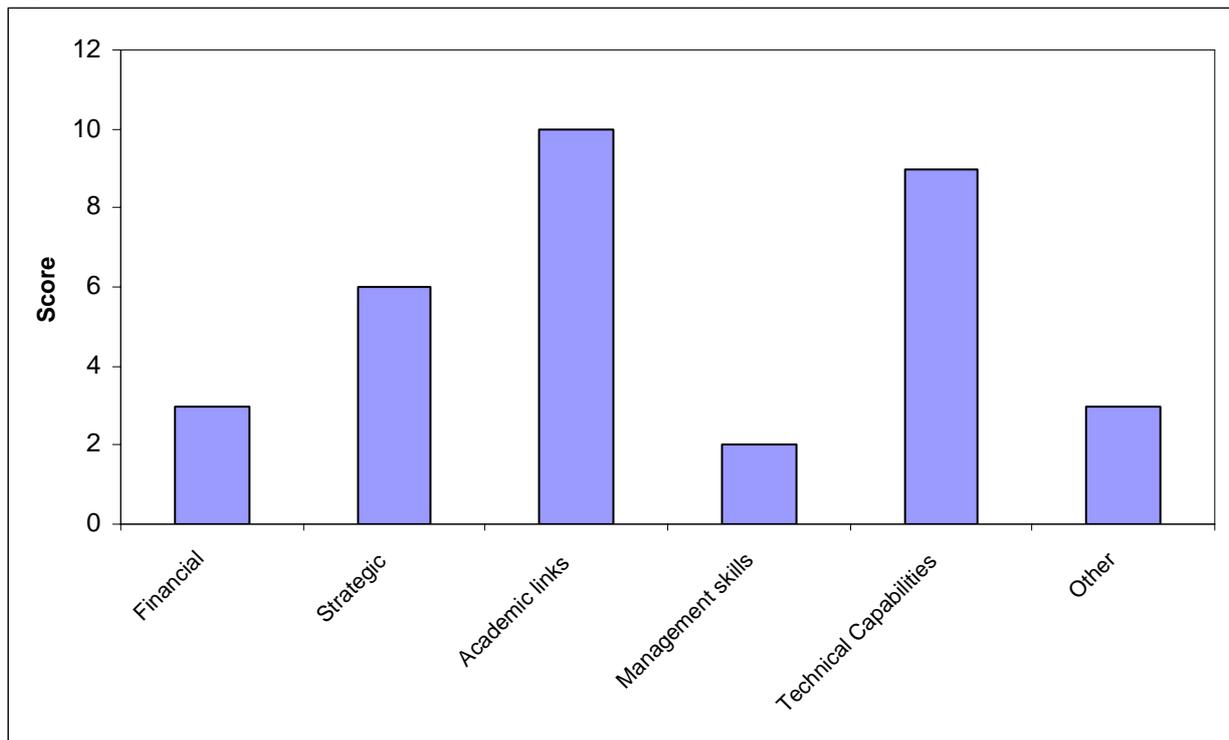


Figure 2 shows how the company partners rated each of the specific benefits. It is clear from this figure that for the 13 company partners that took part in the sifting questionnaire, academic links, technical capabilities and strategic gains were the most commonly noted benefits, whilst financial benefits were only noted by three of the partnerships (23%). This compares poorly with the findings from the KTP annual report 2004/05 that showed 81% of companies participating in KTP view the results achieved as causing a significant contribution to the future performance of the company, but well with the figure from the same report that showed only 24% of partnerships expecting the KTP to lead to commercial benefit from intellectual property (IP).

Of the 23 partnerships that took part in the sifting questionnaire, eight of the Associates had stayed at the company following completion of the project (30%). This compares with 55% of Associates remaining in the company in the wider KTP partnership portfolio (2004/05). Of those partnerships where the Associate(s) stayed with the company, two left following company mergers or take-overs. In addition, one Associate left the company following the KTP and is now completing a PhD with the knowledge base partner.

### **3.3 Conclusions**

- The sifting questionnaire provided useful general data on KTP in the bioscience community. A 49% response rate was achieved for the knowledge base (23 out of the agreed 50 knowledge base partners), while only a 29% response rate was achieved for company partners.
- The greatest barrier to increasing the response rate to the sifting questionnaire was the fact that Knowledge Transfer Partnerships do not maintain up-to-date information on completed partnerships; this meant that on-going communication following completion of partnerships is difficult, or, as the research review found with many of the company contacts, impossible.
- In addition, while the knowledge base partners tended to still be contactable, shifts in staff at company partners, take-overs, etc tended to mean that the company partners were much more difficult to contact.
- In terms of the type of benefit, the knowledge base benefits were comparable with those outlined in the KTP annual report (e.g. links with industry, benefits to the teaching and research at the knowledge base partner, knowledge transfer into industry). Conversely, the company partners did not rate the benefits as highly, and financial benefits in particular compared poorly with the wider KTP programme company benefits, with only 23% of companies rating improved finance as being an outcome from the KTP. While this compared well with the expectation of commercial benefit from IP of 24%, it compared poorly with the 81% that viewed the results of KTP as making a significant contribution to company performance.
- While 35% of Associates stayed with their companies following completion of the project, this compares poorly with the 55% of Associates who stay with companies in the wider KTP Programme (2004/05).

## 4.0 In-depth Questionnaire – Individual Partnerships

The following section of the report includes the analysis of each of the individual complete partnerships that responded to the in-depth questionnaire.

### 4.1 Introduction

The in-depth questionnaire was sent to 20 Knowledge Transfer partnerships. Each contact was sent a covering email, detailing the general aims and objectives of the research review and the in-depth questionnaire.

Seven partnerships matched, *i.e.* both the academic and the company partners involved had agreed to participate in completion of the in-depth questionnaire. A further six partnerships were represented by either the company or the knowledge base partner. The review team encouraged these partners to facilitate a response from the remaining half of the partnership, but they were not successful. Matched partnerships are shown in bold. Findings from both partnerships were included in the subsequent analysis.

Two Associates initially agreed to take part in the in-depth questionnaire. Only one Associate responded. The questionnaire is therefore included in the partnership review in Section 4, but no conclusions or comparisons have been possible in Section 3 below..

### 4.2 Partnership 1

Outcomes from this KTP were quite positive including published papers, and increased commercial value for the Company.

- This KTP resulted in several trade publications, a conference poster paper, together with an estimated three refereed publications due for release shortly
- The longer-term benefits of the KTP are more difficult to measure, since the company has subsequently been sold, and the Associate has since left, however, the project developed during the KTP has been taken forward with the new company.
- Improvements in management skills, (for the Associate) and increased commercial value to the company are considered to be key benefits. The university also provided positive feedback, commenting “*the type of work carried out in this...is very valuable in bringing real-world balance to other research themes and also teaching.*”
- The Associate ranked career enhancement and awareness of industry as high motivations for taking part in KTP. When asked to comment on the impact the partnership made on the company, the Associate commented that “*[the KTP] Helped increase the companies position against competitors, contributed towards winning an award from the composting assoc and assisted in training other personnel within the organisation.*”

### 4.3 Partnership 2

Overall, a relatively successful partnership in terms of IP gains, publications and the relationship between the partners but one that reflected poorly on the local KTP management arrangements.

- Both partners were able to produce refereed publications as a direct result of the KTP

- The academic partner was able to use outputs from the project within the department's teaching and research (Masters degree taught modules) however, the KTP impact on the company was none as they were unable to commercialise the technology developed.
- The Company Partner would not like to be involved with another KTP project, and the feedback provided suggests dissatisfaction with the KTP unit involved, commenting that "*information (from the academic partner) was poor and we had two changes in KTP co-ordinators....the involvement of the University KTP made the relationship more complicated.*"
- The partners continue to maintain strong links with each other, though not through a formal partnership.
- The Company Partner and the academic partner both achieved property gains as a result of the KTP.
- Generally, both partners felt that the KTP was useful in increasing intellectual property gains and "*know-how*" for the company, whilst strengthening the relationship between the company and the academic institution.

#### 4.4 Partnership 3

Generally a positive partnership in terms of softer knowledge transfer and collaborative benefits, but not considered successful in purely commercial terms.

- This KTP project was designed to develop and validate a range of assays, which were "*never likely to be sufficiently innovative*" (company partner). As such, the company and the academic partner did not benefit from publications, portfolio enhancement or performance of the company; neither partner benefited from financial gains as a result of the KTP project.
- The academic partner however, did benefit from contributions to its teaching within the department (additional virus' and diagnostic tests).
- The company and academic partner have discussed both business and technical opportunities for continuing the work with a view to marketing the tests commercially, although to date, no further collaborative work has arisen.
- The direct project-related results were seen to be disappointing commercially, however, both partners agree that the project incrementally contributed to the commercialisation of veterinary tests, which may provide future financial benefits to both parties.
- Both partners shared a positive experience of the project and praised the KTP project extremely highly. Both partners would consider future projects (if a suitable funding opportunity arose), plus agreed that the KTP served to strengthen the relationship between the university and company.

#### 4.5 Partnership 4

This partnership succeeded in both commercial and knowledge transfer terms and has resulted in a second KTP. The academic partner noted that this project would have benefited from lasting three years, something which is now possible through KTPs.

- Due to issues relating to commercial confidentiality, (Proprietary Information) both the university and the company did not benefit from publications as a result of the KTP.
- The KTP impacted both the university and the company in a positive way. The company argues that due to increased knowledge from the new techniques developed during the KTP, they are now better positioned to approach potential new clients with confidence. The university were able to strengthen the interaction between research units and students and company staff including R&D personnel.
- The KTP led to a second project with the university involving two Associates.

- The company and academic partner's feedback on the project was very positive. Whilst no direct commercial gains have been achieved, the company are confident that the new areas of R&D (explored as part of the KTP) and the core knowledge gained will lead to significant benefits to the company.
- The Academic partner comments that: *"it would have been beneficial to extend this to a three-year project if that opportunity had existed."*

#### **4.6 Partnership 5**

While there were no publications or IP gains from the partnership, increased technical data was gained supporting the product development within the company. The University was able to use findings from the partnership to develop a spin-off project as research for undergrad and post grad programmes.

- Neither the academic partner nor the company partner benefited from refereed or trade publications as a result of the KTP.
- Clear advantages relating to this KTP were delivered through the increased technical data garnered, which supports product development claims for the company, whilst the university were able to develop a project spin-off offered as research projects on undergraduate and postgraduate programmes.
- Whilst feedback gained from the academic partner was positive, the Company Partner does not want to get involved with more KTPs, identifying that they need to focus resources on present technical capabilities. The company goes on to comment that the partnership impact overall was "insignificant"

#### **4.7 Partnership 6**

This was not a successful partnership in terms of long-term outcomes, in large part due to the company closing down it's R&D department.

- Both partners agree that this KTP project was not considered to be a success. This was due to the company closing the R&D section that the KTP partnership was organised through. Although the project continued, without the support of the R&D staff, the project was reduced in scope and failed to produce the desired outcomes. Both partners maintain that these difficulties were a result of the company change, and is not typical of KTP programmes.

## 5.0 In-depth Questionnaire – Evaluation of Responses

### 5.1 Introduction

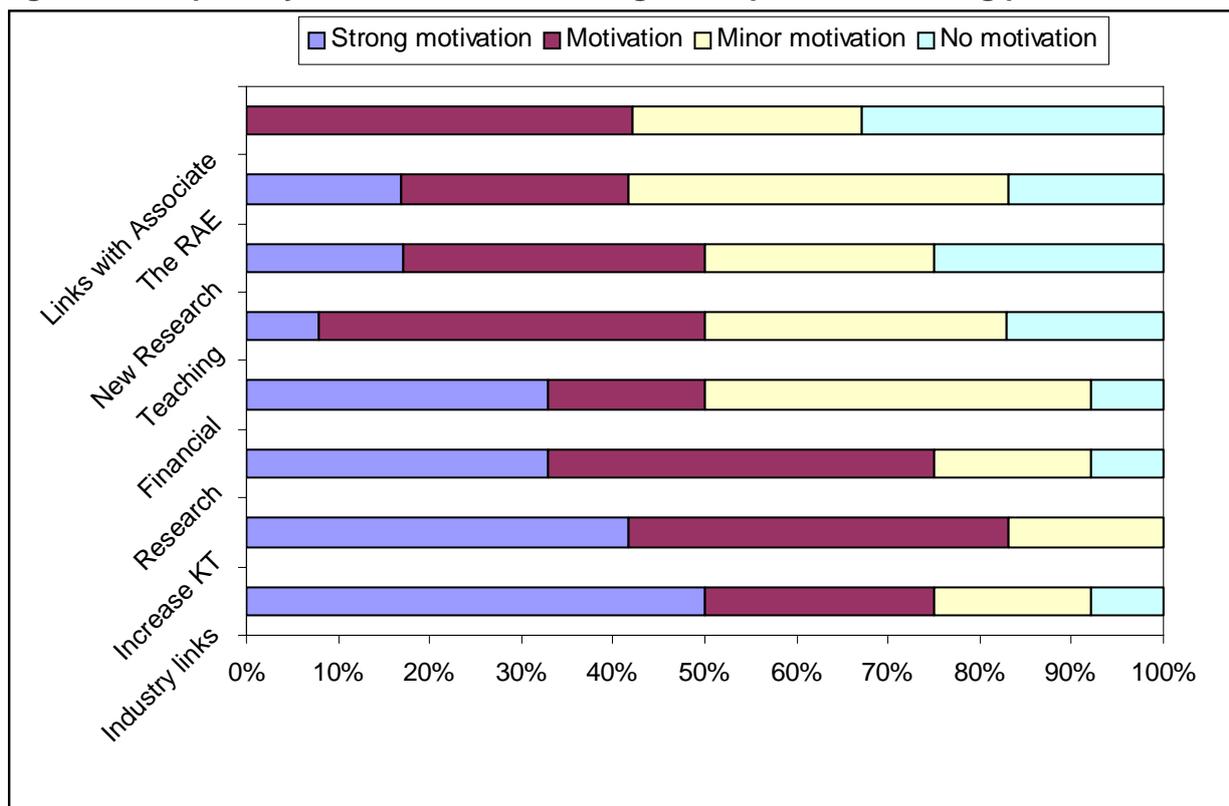
This section of the report examines the semi-quantitative and qualitative findings from the in-depth questionnaire.

### 5.2 Evaluation of responses - knowledge base partners (12)

The following details the responses to the questions within the in-depth questionnaire for the 12 knowledge base partners (question-by-question). Where recipients were asked to “score” responses the analysis highlights average ranking. Otherwise the analysis identifies themes and also draws out specific reasons/answers where appropriate.

- Figure 3 shows the scores for motivation for the knowledge base partners that took part in the in-depth questionnaire. Strengthening industry links, increasing knowledge transfer into industry and contributing to the knowledge base research were the prime motivations. Maintaining links with a current student scored lowest in terms of motivation.

**Figure 3: The primary motivation for knowledge base partners in taking part in KTP**



- Two (17%) Knowledge Base partners reported that the KTP had produced refereed publications, however two more partners indicated that publications were still in preparation. A total of six publications were produced (averaging 0.5 per partnership), comparing with one publication per partnership in the wider KTP programme. The main reasons reported for not producing refereed publications were the lack of time available, IPR issues, and publication not being a driver for the partnership.

**3.** Four partnerships reported that trade publications had resulted from the partnership. Reasons cited for the lack of publications included:

- Acrimonious end to the partnership with company refusing to co-operate
- Nothing to take to market
- Company confidentiality
- Lack of available time
- Project did not generate appropriate information
- Company closed down research labs

**4.** Seventy five percent of knowledge base partnerships reported that the outputs from the projects contributed to teaching within the Department/ University, comparing with 81% in the wider programme for 2004/05. The ways in which the partnerships contributed to teaching included contributions to lectures, case studies, and contributions to research projects. Where the partnership did not contribute to teaching, the reason given was that the project was in areas that were not included in undergraduate courses. One partnership finished acrimoniously, and therefore did not contribute to the knowledge base partner.

**5.** All but one of the partnerships (92%) reported outputs from the project contributing to research within the department/university (compared to 88% in the wider programme). Such contributions ranged from further related research, joint projects with other universities to increased numbers of case students and financial contribution to the RAE. One partnership was classified as having not been designed to add to research, while another the knowledge base partner was "*not allowed to divulge information gained from the KTP*".

**6.** Eight partnerships reported that to their knowledge the University had participated in further KTPs. Moreover, half the Knowledge Base Partners reported as having participated in other research with industry, including: Case, DTI Technology Programme, and industry funded research.

An analysis of all the universities concerned that responded to the questionnaire shows that all 12 are currently participating participated in ongoing KTPs. This would seem to suggest a limited knowledge of academic involvement in KTP in the wider University.

**7.** Two thirds of the Knowledge Base partners reported as having follow on collaborations with the company or other companies as a result of the KTP.

**8.** One third of the Knowledge Base partners reported intellectual property gains, products or services, directly from the partnership.

**9.** None of the knowledge base partners reported any commercial income as a result from the partnership.

**10.** One knowledge base partner reported a subsequent successful application for WRAP funding for a related waste management project in tandem with the company. However, the KB subsequently withdrew from the project following changes at the company.

**11.** Each of the knowledge base partners was asked to describe the impact that the KTP has had on the university or research organisation's performance. The responses were almost universally positive and focused on the increased commercial awareness and gains, raising the profile of knowledge transfer as a valid university activity and associate training. The one negative response noted that the programme had *"less impact than I had expected, partly due to the constraints of supervision at a distance and the difficulty in effecting change within a commercial venture. Three years was insufficient time to undertake a research project within such an environment"*.

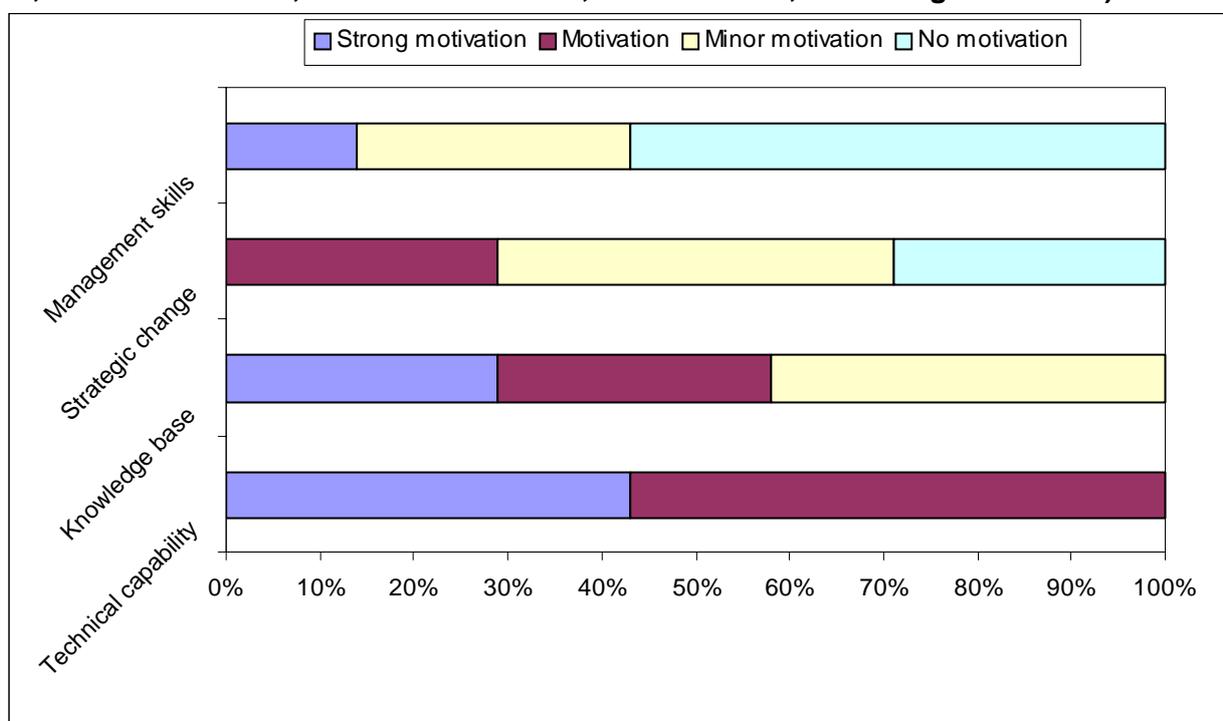
**12.** The knowledge base partner was given the opportunity to make further comment. Where comments were made, these tended to be positive and included recognition of the programmes benefits in maintaining links with industry and bringing "cutting edge" expertise into manufacturing industry.

### 5.3 Evaluation of responses - Company Partners (7)

The following details the responses to the questions within the in-depth questionnaire for company partners (question-by-question for seven companies). Where recipients were asked to “score” responses the analysis highlights average ranking. Otherwise the analysis identifies themes and also draws out specific reasons/answers where appropriate.

1. Figure 4 shows the average scores for motivation for the 7 company partners that took part in the in-depth questionnaire. Technical capability and links with the knowledge base were the strongest motivators for the company partners, while strategic change and management skills were less strong in terms of motivation.

**Figure 4: The primary motivation for company partners in taking part in KTP (Score each 1-4, 1 = no motivation, 2=minor motivation, 3= motivation, 4 = strong motivation).**



2. Only two of the company partners reported refereed papers directly arising from the partnership. Reasons provided for this included a lack of innovation. However the majority of companies provided no reason.

3. Only two of the company partners reported any trade publications. Confidentiality was one of the reasons given for the lack of trade publications.

4. Three of the company partners (43%) reported that the KTP had impacted on portfolio and market sectors, in terms of adding new techniques to the company portfolio or providing additional technical data to support product development. This compares with 81% of companies in the wider programme reporting that the results achieved through KTP would be significant to the future performance of the company (2004/05). Of the rest of the companies concerned, the reasons given for no impact included market changes over the life of the KTP, and the company closing it's R&D section. One of the KTPs was labelled as being 'unsuccessful'.

5. Three of the companies reported that the project had been taken forward within the company. The routes forward were reported as: “*despite the company being sold, the technology itself was taken forward*”; “*the project had enabled a stronger portfolio to be put together for attracting outside investment and partnerships*”; and “*one that lead to a second KTP*”.
6. Three companies reported that they would wish to get involved in further KTPs. However, four would not. The reasons given included: poor KTP support from their knowledge base organisation; a need to focus on present technical capabilities; and the company having changed strategic direction.
7. All but two of the companies reported that the Associate had contributed to the skill set within the company. The skills sets to which the Associates had contributed were, in order of priority: Technical/scientific skills; Performance of other company employees; Management Skills and Other – commercial value in product development and marketing.
8. Two companies reported intellectual property gains, products or services arising directly from the partnership, either through patents, licences and know-how or formation of a spin-out company.
9. One company reported an increase in profitability (14%), comparing with 24% of companies **expecting** to see commercial benefit from the application of IP in the wider KTP programme (figures from 2004/05 annual report). This was through improvements in sales margins. The remaining six companies saw no direct benefit and one company reported a loss in terms of the KTP company contribution. Of these six companies, the likelihood of significant financial benefit over the next two years was highlighted by one company (adding up to 28% total), while another company noted that the lack of benefit was “*not a failing of KTP but a change of direction by the company*”.
10. One company reported that the KTP had led it to seek out further collaborations with additional universities or research organisations, but was not prepared to divulge any further information for reasons of confidentiality.
11. Conversely, three companies reported further collaboration with the original knowledge base partner as a result of the partnership, through KTP, case awards and ongoing dialogue/ad hoc arrangements. Where this option was not pursued the reasons for not undertaking further collaboration included: failed discussions, change of direction, insufficient time and the company being sold. Added together with the single company that had sought out further collaboration with other universities, this number (57%) compares with the 66% of partners **planning** future collaboration following completion of projects in the 2004/05 Annual Report.
12. Five companies reported that the KTP had impacted positively on R&D investment, one of which reported that knowledge gained from the KTP would enable them to be more targeted in selecting development projects in the future.
13. Two companies reported taking on of new employees as a result of the project.
14. As with the knowledge partners, the companies were asked to comment on the impact that the KTP had on performance. Where comments were made they were all generally positive, and ranged from “*a genuine success story, Associate fast tracked and taken on as General Manager when the company was sold*”, to “*increasing our IP portfolio*” to “*not a good outcome, but we have a better understanding of where things could have gone better*”.

15. Finally the company partner was given the opportunity to make further comment, two of which were very positive recognising the “*excellence of the scheme*”, and only one of which was actively negative towards the scheme. That company (Technology Partnership plc) suggested that KTP should be more proactive in discussing other potential projects, and in informing partners of changes in the grant process.

## 5.4 Summary of findings

In making a comparison between themes, i.e. benefit of KTP, motivation, future participation, it should be noted that not all questions to the knowledge base and companies were directly comparable.

### 1. Motivation

Knowledge transfer and increased links with each other were the prime motivations for the knowledge base and company partners. The knowledge base rated links with industry as the top motivation while the company partners rated the increase in technical abilities through knowledge transfer. For both knowledge base and company partners, motivations that solely benefited the single partner were less important, e.g. the RAE, teaching, research themes and Associate links for the knowledge base, strategic change and management skills for the company partner.

### 2. Benefits

#### *Publications*

The question of increased publications was raised with both partners. Only one out of the matched pairs indicated that their had been *peer reviewed publications* generated, while the knowledge base partners associated with 2 partnerships stated that they still planned to produce papers but lack of time had impeded progress. Of the individual knowledge base partners, one had produced papers, also one company partner had done so. In general, however, the majority of partnerships did not produce publications for either the company or knowledge base partners, and there was no common theme in the reasons why not, ranging as they did from commercial confidentiality issues (for both partners) to the partnerships not being publication driven.

As with peer-reviewed publications, trade publications were produced by a minority of the partners, three from the knowledge base and two of the companies. Again 2 partnerships produced the majority. The reasons for the lack of trade papers again focused on commercial confidentiality issues, and the lack of success of the individual partnerships. It should be noted, however, that on average only one paper is produced per completed KTP partnership (from 2004/5 annual report).

#### *Intellectual property and commercial gains*

A greater proportion of companies (43%) reported certain or likely intellectual property and commercial gains than did knowledge base organisations (25%). Interestingly one of the knowledge base partners reported a product gain while their company partner responded negatively. In general the companies provided detail on the reasons why commercial gains were not forthcoming (e.g. more development required, changing markets), while this was not such a strong driver for the knowledge base. Whereas the companies also reported positive market and financial impacts on three of the companies concerned, none of the universities outlined any commercial gains beyond the grant itself.

#### *Outputs (teaching, research)*

Teaching for the knowledge base and research for both company and the knowledge base provided greater gains than did any purely financial outputs, a finding that is consistent with the wider KTP programme. With the exception of two partnerships all the knowledge base organisations noted contributions to teaching within their organisations. Similarly all but three

also noted a contribution to research, in three cases through further collaborations with the company (PhD and two Case students). The impact on research within the companies was also positive with five commenting favourably on how the KTP influenced the company's R&D investment.

### **3. Future participation in knowledge transfer (both KTP and other links)**

In general the knowledge base was more favourable towards the programme and therefore more likely to continue in KTP than were the companies. Three of the companies (43%) and eight of the knowledge bases (67%) partners either wanted to or were already participating further in KTP. However, it should be noted that all of the knowledge base partners are active in the KTP programme outside the biosciences. In addition, only one of the knowledge base organisations categorically denied interest in any further knowledge transfer activity. Interestingly, one of the most successful companies in terms of outputs was specifically critical of the management of their individual partnership and gave this as a reason for not continuing to take part in the programme. This company is however continuing to collaborate with other Universities (confidential information).

### **4. Overall performance**

In general the knowledge base was more positive regarding the overall performance of the scheme than were the companies, with 83% of knowledge base and 57% of companies reporting favourably on the impact of their partnerships. Among the knowledge base the links with industry and the appreciation of applied research were the major measures of the positive outcome, while for business increasing core knowledge, as well as skills training were seen as the major gains. These findings mirror the general emphasis in motivation on knowledge transfer and industry/knowledge base links.

### **5. Other comments on KTP**

Finally, KTPs were less positively viewed by companies than by the knowledge base, however a majority of both were favourable towards the programme and its benefits. It was clear from this review however, that businesses within the bioscience community were less well served, in their opinion, than were the knowledge base partners, again in their own opinion.

## 5.5 Conclusions

- KTP met knowledge base expectations in terms of links into industry, knowledge transfer and contributions to research/teaching (75-91 %). These findings were favourable when compared with findings in the wider KTP community noted in the 2004/05 Annual Report.
- KTP was less successful in meeting the expectations of the company partners. In particular only 43% of companies reported that the partnership positively impacted on market sectors, compared to a figure of 81% reporting that the results of KTP would be significant to the company's future performance in the wider KTP community (Annual Report 2004.05).
- Where company partners did not make IP or market growth gains, the reasons included changing market conditions (2), a company closing down it's R&D (1), and the company and knowledge base simply not being able to take the development "*as far as we would have liked*" (1).
- The analysis of the 'softer' benefits for companies was more favourable, with 71% of the comments reporting that KTP had impacted positively on R&D investment. Of the seven companies taking part in the in-depth survey, 57% were continuing to collaborate with the knowledge base, either with their original knowledge base partner or with new partners.

## 6.0 Conclusions

The following section of the report details the conclusions this BBSRC research review revealed. These conclusions are based on both the semi-quantitative and qualitative analysis as shown above and grouped by knowledge base partners, company partners and the Associate.

### 6.1 Knowledge Base Partner:

Knowledge base partners have benefited from the KTP experience in the following areas:

- Contributions to the teaching within the department/university
- Contributions to Research within the department/university
- Gaining follow-on collaboration with the company as a result, including follow on KTPs. Of those who took part Strathclyde University leads the way on KTP in general with 23 current Partnerships.

The overall comments regarding impact on the university performance were very positive, with the benefits of taking part in the programme generally matching the knowledge base motivations. There was only one completely negative response, due in large part to changes at the company that led to a negative impact on the outcomes for the Knowledge Base partner.

Where possible findings from this review were compared to outputs reported in the KTP annual report for 2004/05. Comparisons were possible in terms of benefiting in terms of contributions to research (91% vs 88% in the 2004/05 Annual report), contributions to teaching (75% vs 85%), and benefiting from participating in KTP (91%vs 93%).

Shortcomings, it would appear, relate to that more could have been made of:

- Producing refereed papers (0.5 per partnership compared to 1 per partnership in the 2004/05 Annual report)
- Trade papers
- Gaining more benefit from IPR
- Lack of commercial income gains.

IP and commercial gain comparison with the wider KTP programme are made in 6.3 in company partner conclusions section.

### 6.2 The Associate:

Findings from the sifting survey showed that seven of the 23 KTP Associates had stayed on, at least initially, with their company partner. This 30% of Associates compares unfavourably with the 55% of Associates remaining with the company in the wider KTP partnership portfolio. Interestingly two of these seven Associates subsequently left the companies following take-over or mergers.

Once the KTP has finished and if the Associate does not take up a long-term post with the Company Partner, the Associate is under no obligation to keep in touch or collaborate further with KTP. This has meant that it has been particularly difficult to make contact with the Associates as part of this research review. The research review was however, successful in engaging with one Associate, whose comments revealed a positive experience of the KTP, stating an increase in management skill to be the most significant benefit of the KTP experience.

### 6.3 The Company Partner:

The primary motivation for the company partners in taking part in KTP were improving technical abilities within the company and increasing links with the knowledge base. The company partners have had a less favourable experience of KTP than did the knowledge base, with their responses to the questionnaires indicating a lower level of benefit from the individual partnerships.

Responses varied widely between companies, probably a factor of having so few companies available for review, and included the following:

- 43% reported that the KTP impacted positively on portfolio and market sectors (compared with 81% for the 2004/05 annual report);
- Only two companies (28%) reported IP gains, products or services arising or likely to arise from the partnership =comparing with 67% in the wider community;
- One company (14%) reported an increase in profitability although another one was expecting to see benefit over the next two years (therefore 28% compared with a 24% expectation of commercial benefit in the wider programme);
- 43% reported that the KTP had been taken forward within the company;
- 43% reported that they would continue to collaborate with their knowledge base partner, while one company is pursuing collaboration with another knowledge base partner. This 57% compares with 66% of partners aiming to collaborate further in the wide KTP community.

More positively, the majority (71%) of company partners reported that KTP had impacted positively on the company R&D investment and only one of the company partners was actively negative towards the programme suggested that KTP should be more proactive in discussing other potential projects, and in informing partners of changes in the grant process.

### 6.4 General conclusions:

BBSRC posed two specific questions regarding KTP, the first of which was:

- “Do Knowledge Transfer Partnerships meet the needs of the bioscience community, and if not, what barriers (and possible) solutions are there?”

Given the low general response to the questionnaire, these questions are difficult to answer, however taking the sifting questionnaire findings together with those for the in-depth study, it seems that:

- KTP **does** meet the needs of the knowledge base bioscience community, specifically with regard to establishing links with industry, facilitating knowledge transfer and contributing to research/teaching within the knowledge base.
- The benefits gained by the bioscience knowledge base are comparable with those in the wider KTP knowledge base. One exception would seem to be in terms of number of published papers per project.
- KTP was less successful for the bioscience companies involved. Less than half of the companies concerned benefited in terms of market shift with only two companies (28%) likely to have benefited in terms of increased profit from IP. However this last figure compares favourably with the wider community in which only 24% report an expectation of commercial benefit from application of IP.

- Four of the companies have continued to collaborate with the knowledge base, but only one of these through KTP.
- Given the low numbers of companies involved in the survey it is impossible to say whether or not KTP meets the needs of bioscience companies, rather it can be said that it met the needs of two of the companies concerned entirely while partially meeting the needs of three others.

Findings from the review suggest that barriers to KTP meeting the needs of bioscience companies include:

- The shifting market needs and rapid change within the bioscience industry
- The requirement for long lead times with IP based products.
- A lack of case study material that is suitable across what is a very diverse market sector.

Of these, the second barrier may be partially addressed with the introduction of more 3 year KTPs, however this would seem counter intuitive to the first barrier. It was not clear from this review how the use of 'post doc' KTPs might help overcome these barriers. Given the lower success rate for companies in comparison to the knowledge base it might benefit BBSRC to more closely review the company business strategy when considering approval of funding for KTPs.

BBSRC also requested that the research review draw conclusions as to whether:

- “Bioscience KTPs represent value for money for all partners”

It is challenging to fully address the “value for money” elements of the review, firstly, because this was not a direct question asked in the in-depth questionnaires and, secondly, because “value for money” is a subjective view. Value may be measured in terms of monetary value, but also by skill, intelligence and experience.

In order to satisfactorily address this question, the review team have focussed on the following key areas:

- Value for money – soft issues (i.e. increase in intellectual property, technological skills, links with industry/knowledge base).
- Value for money – hard issues (i.e. profit increase, commercial gains).

On the softer issues and most specifically for the knowledge base, KTP does seem to be viewed as providing value for money. When measured against commercial gains, this is less clear however it should be noted that such commercial gains were not strong motivating factors for the knowledge base.

The company partners claimed similar motivations for taking part in KTP to the knowledge base, however purely in terms of commercial gain, the majority of companies may not have felt that they had “value for money”. This is reflected in only three of the company partners expressing the desire to take further part in KTP, although four companies have continued to collaborate with the knowledge base.

## 7.0 Recommendations

Further to the qualitative and quantitative analysis, the review team are able to present the following recommendations:

### Recommendations for the wider KTP programme

1. Given the *generally* positive findings of the review, in particular with the knowledge base partners, we would recommend an increase in the sector specific marketing of KTP, particularly emphasising the contributions to teaching and research (including the possibility of peer-reviewed papers), links with industry and general knowledge transfer. This should include the marketing of KTP to partners involved in existing KTPs in order to facilitate ongoing partnerships for the future. The KTP marketing team should be able to provide support for such activity.
2. If required KTP Advisers and Momenta regional development managers are available to contribute to such in sector specific marketing/networking.
3. Given the range of feedback from the companies regarding KTP and its impact, we would recommend that the Partnership Approvals Group (PAG) continue to take particular care when reviewing the business case and strategies of any KTP outline application received. From the review it seems that a solid business case and a strong market analysis will be a factor in whether or not the eventual KTP is a success.
4. Given the volatility in the bioscience commercial community it may be worthwhile for the KTP programme to market business process or indeed marketing programmes to that community, rather than focusing entirely on biotechnology and biological science. Such KTPs would need to be funded by sponsors other than BBSRC. However, BBSRC could aid the KTP programme team by providing bioscience networks and contact information.
5. The rapidly changing nature of the bioscience business community meant that it was very difficult to find and then persuade company partners to take part in this review. With long-term outcome reviews of increasing importance when evaluating programme success, we would recommend to all sponsors of KTP that the programme make a greater effort to keep in touch with completed partnerships and Associates. Indeed, and partly as a consequence of this review, the KTP programme team is currently investigating mechanisms for establishing longer-term relationships with completed partnerships and Associates (for example, securing a commitment to further contact in the application form and final report) with the aim to implement these processes in the near future.
6. The KTP programme could attempt to better manage the expectations of companies, as appropriately identified through the application process, in order to successfully manage the expected outcomes of involvement in KTP. It should be noted however, that the KTP programme team and Advisers are already addressing these issues as is evident through the "New Partnership Workshops".

### Recommendations for BBSRC

7. The KTP Offices have a communication route through to the lead Sponsor (DTI) using the KTP National Forum meetings. These meetings are held quarterly at the DTI and are attended by representatives of KTP Office Managers in the regions, most of whom have strong links with their academic departments. The BBSRC supported knowledge base may well benefit from presenting to this forum, thereby increasing the KTP offices awareness and understanding of BBSRC criteria and the success to date of BBSRC KTPs, particularly with the knowledge base.
8. As far as the marketing to companies is concerned, we would recommend increased direct and if possible one-to-one marketing to companies using two of the partnerships reviewed herein as case studies. The KTP marketing team should be able to provide support for such activity.
9. The results of the BBSRC review should be considered against the benefits demonstrated in other reviews undertaken by individual KTP sponsors. While Momenta were able to make

some useful comparisons with the overall programme, we were not able to compare the BBSRC partnership outcomes with those of any other individual sponsor. (Note: ESRC have recently commissioned a review of its support to KTP).

10. If any of the Regional Development Agencies new to KTP decide to include the biosciences within their regional strategies, Momena recommend BBSRC considering collaborative KTPs. However, we recognised that BBSRC are a national sponsor and that of the RDAs currently looking to join the programme, none have biosciences within their criteria.

## **8.0 Acknowledgements**

Momena would like to thank the BBSRC and the DTI for funding and support of this project.

Momena would also like to acknowledge the contributions and efforts made from the partnerships contacted as part of this research review.