

## **LAMBERT REVIEW OF BUSINESS UNIVERSITY COLLABORATION**

### **RESPONSE FROM THE UNIVERSITY OF EXETER**

#### **Summary**

The University of Exeter welcomes the opportunity to provide its comments to the Lambert review. We believe this is a key area of work which, if managed and incentivised properly could transform the fortunes of UK business and the HE sector. Universities have responded well to the challenge so far. However, we feel that the approach from national and regional government to date has been piecemeal, short-term and often contradictory leading to engagement from the HE sector which has often realised much less than its potential.

#### **The key points of our submission are:**

- Work with business and community should underpin and drive mainstream academic work. It cannot be seen as a bolt on or a third rate activity or it will not be valued by the academic staff undertaking it nor their business partners. If the Government wishes to encourage UK HEIs to support the research base of UK industry then it must make this preference clear in its research support mechanisms (ie the RAE) and in its own research contracts with HE.
- Research intensive institutions are best placed and have most experience to undertake technology transfer. The most effective collaborations develop over the longer term and involve a wide range of mechanisms. There is no single best solution.
- Academic staff should expect to receive first class, professional advice and guidance from University support specialists in negotiating and structuring industrial connections. This requires on-going funding.
- The past focus on targets and SME engagement has led to confusion in the market about what the HE sector can and should provide. There has been a tendency for HEIs to develop business services in response to demand for instant and business-like response. These short-term solutions can often be the least effective for the development of the knowledge economy. One solution may be to establish collaborative, low intervention SME services on a sub-regional basis, clearly differentiated from other, more productive, longer-term HE/business exchanges.
- SMEs can be the most exciting and rewarding partners but also the most time-intensive and least financially viable. If we aim to support SME knowledge transfer interaction then sustainable income streams must be found.
- The RDAs and Business Link are beginning to see HEIs as more than simple service providers. However, their past focus on direct business support rather than the development of nodes of business-focussed research strength has led to frustration.
- There is poor connection between the HE sector, the Sector Skills Councils, and the Learning and Skills Councils leading to very limited information flows about business

skills needs. In particular, graduate employment issues do not seem to be taken seriously in our region.

Universities are major supporters of the professions, training teachers, doctors, architects, lawyers etc. Universities also run activities such as Exeter's Business Leaders Forum which are designed to connect it fully into its local community. While not designed specifically with income generation or knowledge transfer in mind they nonetheless provide a useful exchange of ideas and contacts.

## **LAMBERT REVIEW OF BUSINESS UNIVERSITY COLLABORATION**

### **DRAFT RESPONSE FROM UNIVERSITY OF EXETER**

#### **1. THE UNIVERSITY OF EXETER'S BUSINESS INTERACTIONS**

Exeter is a medium-sized research led university located in a rural area in the South West Peninsula. This area is typified by a huge majority of businesses employing fewer than 10 staff. The University has around 600 academic staff and has an overall turnover of around £90m.

Each year we undertake up to 700 projects with business and community organisations. Overall, our turnover from this activity is in the order of £9.6m (around 10% of turnover). This work has grown rapidly in recent years supported by HEROBC and HEIF and was cited as an example of best practice in the recent White Paper.

Our support for the professions is also strong. We have one of the UK's largest Schools of Education placing trainee teachers into 350 partner schools; our School of Law is well respected; we have established the collaborative Peninsula Medical School, with the University of Plymouth; and we coordinate research for evidence-based social services across the south West.

#### **2. BEST PRACTICE AND EXAMPLES OF EXCELLENCE IN BUSINESS – UNIVERSITY COLLABORATION IN THE UK**

Business-University collaboration cannot be seen in isolation. At their best, connections with business and other agencies should underpin the research and teaching strengths of a University. If they are effective, these connections should provide benefit to businesses taking part and this in turn should provide more general economic advantages to an area.

While we understand the White Paper's call for institutions to focus on what they do best, we do not accept the argument that research intensive institutions should focus on research leaving the rest to handle knowledge transfer. It is very clear, and highlighted recently in the HE Business Interaction Survey, that the research intensive institutions have most to offer the business world through their cutting edge research and active knowledge transfer programmes.

There are many examples at Exeter where academic staff have actively sought opportunities for collaboration with key sectors and these have led to lasting benefits for business and academic partners.

Examples include the EMERGE microbiology research group which has built a strong research and development relationship with companies needing to address problems caused by microbes in a wide variety of applications from blockages and damage to oil pipelines to the increasing prevalence of 'hospital super bugs'; the Centre for Water Systems which manages a network of organisations supporting water utilities; and the Bioinformatics Centre, the School of Modern Languages, the School of Law, the School of Chemistry and even the School of English which build links with companies in order to place students. In these cases, both sides value the relationship and are prepared to invest in long-term solutions: business partners are prepared to pay a market rate to secure knowledge, expertise and students and the academic will invest time and effort in maintaining and building the relationship because it will have an impact on their work.

## **2.1 Mechanisms**

A number of useful mechanisms are used at Exeter to support this process:

### *Business Development Managers*

We use business development managers, employed by our Business Relations Office representing a number of disciplines in our Key Strength Areas to help academic staff find partners. These include generic fields such as Environment, Engineering, Biotechnology, Languages, Healthcare. The best of these staff are people who combine some experience of academe and a practical, business-oriented outlook.

### *Business Fellows*

We place Business Fellows in key Schools either to accelerate partnership building or to develop new strands of work. Typically these are academic staff, respected by their peers or business experts with significant experience of industry and a wide range of contacts. Currently we have appointed 8 across the University with a further four planned for our University campus in Cornwall.

### *Link Funds*

We also use HEROBC and HEIF monies to create Link Funds for business and community work. These cover the academic's opportunity costs of making an initial link with an organisation (which is often the most difficult part) and typically make small payments (up to £500) in exchange for the academic providing details of the link being made.

### *Central support*

Academic staff, Fellows and BDMs must be supported by strong central services which handle contracting, IPR management and exploitation, quality systems and customer relations. In our case we also have a separate company, Exeter Enterprises Ltd which deals with academic consultancy and professional indemnity issues. Overall we employ around 16 FTE staff in various central functions involving interactions with business, not including our Careers Advisory Service.

## **2.2 Diversity**

Through these arrangements we provide a huge range of different types of interaction depending on the circumstances of the industrial relationship. Indeed the sheer variety of operations is one of the most difficult challenges facing us.

These range from (for example): blue skies research in Complementary Medicine funded by Boots plc and chairs and bursaries funded by organisations such as Rio-Tinto; collaborative chemical research with Pfizer supported by LINK programmes; Faraday initiatives in Physics and Engineering; contract research in micro-biology with Proctor and Gamble; TCS programmes with regional businesses in agile manufacturing; consultancy led evaluation of new Government initiatives; consultancy led tourism research and a range of student-based initiatives such as the national STEP programme (we are one of the UK's largest university agencies) and a graduate-based project scheme, the Graduate Business Partnership. We also run professional development programmes aimed at business including an AMBA accredited MBA, a unique leadership MA and diploma, a highly flexible, bite-sized postgraduate executive CPD programme and a programme of non-accredited workshops and seminars on emerging topics.

We have an on-campus Innovation Centre hosting 18 fledgling businesses and are working on plans to almost triple its size. This Centre is the hub for a network of innovation specialists providing training, advice and one-to-one help for entrepreneurs.

We also run a Business Leaders Forum for senior executives which attracts major national speakers to Exeter to discuss issues of importance to business. Inevitably, we also manage a wide range of business networks in key sectors and the University acts as the host for a wide range of meetings of the local business community. We also have sponsorship arrangements with supporters both at a regional and national level.

### **2.3 Regional Development Agencies**

The RDAs are still trying to understand how they can best add value to the innovation process in a region. There is currently heavy reliance on external consultants to guide them in this. The SWRDA has been very helpful in funding the establishment of capital projects such as specialist equipment, new centres of expertise and innovation centres/science parks. It has been much less effective in finding ways to incentivise academic staff to undertake work on behalf of the region or to exploit IPR. In particular, it has not grasped fully the ongoing need for funds to support HEIs working in SME dominated regions. Although SMEs can be the most exciting and rewarding customers they can also be the most time intensive to deal with and the least able to pay a market rate for services rendered.

A start has been made by the establishment of the £6m *Knowledge Exploitation South West* project. This has allowed the appointment of Business Fellows and sector specialists. More creative approaches to encourage the uptake of South West projects will undoubtedly be required in the future.

There is also a natural tendency for RDAs to expect to see very proactive business engagement in return for funding research centres. This may not always be appropriate, particularly where an RDA wishes to facilitate a market lead in a new technology or sector and needs first of all to establish a credible knowledge base. Indeed in some cases an emerging, yet important sector might be very small indeed and the function of the HE

research centre is more likely to be at the level of attracting inward investment companies around a ‘honey pot’ of expertise, equipment and students.

RDAs have also failed to address the funding gap faced by most high-growth SMEs especially those in knowledge-based markets. Because of this, we may witness a ‘business brain drain’ where university spin-outs are best advised to locate in another region, or indeed another country where the support is more effective.

### **3. BARRIERS TO BUILDING GOOD RELATIONSHIPS**

Where there is a strong mutual reason for academic staff and business to collaborate (usually driven by academic curiosity) then relationships can be spectacularly effective. Our Centre for Leadership Studies, for example, uses a Founding Partners scheme which provides a select few corporate users with privileged access to leadership expertise and events over the long-term in exchange for core funding sponsorship.

#### **3.1 Initial Contact**

However, in many cases there is market failure at the initial point of building the relationship. This occurs partly because of unclear motives as to why the interaction should take place. Is the relationship being built in order to generate income, to strengthen a course programme, to generate IPR or for the common good?

Ironically, HEIF and HEROBC funds have exacerbated the problem in many institutions. In order to justify their expenditure, institutions have set themselves ambitious targets for establishing new business connections. This has led to a ‘business services’ culture which makes impossible demands on the academic culture (or bypasses academics altogether); raises expectations in the market; and confuses business intermediaries.

There is, however, a need for institutions to initiate new links with potential partners. Most connections start small and build over time. For this purpose, therefore, HEIs need outreach programmes and they need to manage the resulting relationships carefully. In general, most of these activities would be more effective if better targeted and linked to sectors and clusters through dedicated sector support projects. At Exeter, for example, we run the *EnviroSkills* project for the SW RDA which is identifying need in the environmental technology sector and the *Regional Languages Network South West* project which promotes the benefits of languages to the regional business community. We then aim to broker support from a wide range of possible sources including HEIs.

One of our flagship activities is Exeter Advanced Technologies – an engineering R&D facility which can offer one-off consultancy or development projects to SMEs and also runs national partnerships. It acts as the commercial gateway to all engineering support for SMEs. This kind of sector-based ‘front door’ is essential for SME engagement but is expensive to maintain and is not sustainable in the longer term without continuing subsidy.

#### **3.2 Business Link**

Business Link has been an effective partner, mainly where the Personal Business Advisers (PBAs) and Innovation Technology Counsellors (ITCs) have spent time getting

to know the expertise available and the limitations in its accessibility. We have dedicated significant amounts of time building up one-to-one relationships with key advisers and this is crucial to reducing wasted time through inappropriate referrals.

However, in the main, Business Link generalists tend to see the HEIs as service providers and expect to interact with them in the same way as with commercial consultants, trainers, suppliers etc. This approach works effectively with organisations whose survival depends on being able to respond effectively to a standard range of enquiries to a standard deadline. Universities' frequent failure to meet these kinds of expectations on complex enquiries requiring advice from international specialists at short notice can lead to frustration all round.

Another aspect of this relationship is that universities are seen as 'suppliers of last resort', ie we are used when everything else has failed or where the problem seems particularly intractable, or where the company has no cash to spare. We can usually only respond to this type of problem by using student or graduate projects.

### **3.3 University Management**

There is a tendency for academic staff to see their work with business as 'yet another burden'. This is accentuated by the notion of the 'Third Leg'. When seen as a 'bolt-on' extra it is natural for academic staff to look at their other priorities, namely teaching, research and administration and decide that the Third Leg comes at best a *poor* third. It is much more effective in the longer-term to see business and community engagement as underpinning for the mainstream teaching and research work of the institution.

At Exeter for example, each School prepares an annual business plan describing how its work with business will support its teaching and research strategies. Staff are then judged on their effectiveness at achieving the School's objectives including business links. In this way, it is possible for staff to be rewarded through promotions and pay for the 'outreach' work they do.

Staff are also incentivised through consultancy fees paid directly to their accounts and generous IPR income sharing. However, income generation in itself is rarely a major motivating factor.

Management of workload will become increasingly important as Heads of Schools allocate resources to people at different levels in order to meet School objectives. Should the delivery of a CPD module in the evening to a group of highly motivated and challenging executives have the same weight as a mid-morning seminar to second year undergraduates?

If universities undertake entrepreneurial business service provision they need to adopt a commercial approach to indemnity, risk management and project management procedures to reach standards expected by commerce. This then requires an increase in overhead costs which is unpalatable to most SME buyers.

At Exeter we manage all external consultancy through our consultancy company and this maintains all these systems. All of our consultancy-focussed units also put contracts through this company. However, as the University gets involved in a much wider range of activities it may have to apply the same systems to these. This will tend to separate

the business focussed work of the University from the mainstream, which is exactly what we are trying to avoid.

### **3.4 Business perceptions of knowledge transfer**

#### *SMEs*

We have already described how the Business Link assumption that universities are service providers can lead to frustration when they do not act like other service providers in their portfolio. This assumption is shared by many business people, particularly SMEs and also by the RDAs. A further complication is the assumption that the universities are an arm of government – in effect a high-tech version of Business Link. This view leads most SMEs to assume that the service must be free or should attract grant funding. This also leads to confusion as to why all the universities don't work together, don't offer a common service or operate in similar ways.

In order to deal with this misconception it may be appropriate for groups of HE and FE institutions to come together to offer single gateways to a range of simple, off the shelf programmes such as STEP, graduate programmes, non-accredited training and even TCS. This currently happens in some parts of the country and seems to have the effect of reducing costs in HEIs and reducing confusion in the market. These kinds of regional centres could also be a focus for receiving grant funding from the RDAs in exchange for effective provision of services.

Smaller companies respond well to pre-packaged schemes such as CASE, STEP or TCS or to participation in collaborative programmes such as LINK or SMART. Such programmes are usually created in response to a grant regime but it is also possible to develop special versions of these programmes to be marketed without subsidy.

#### *Large Companies*

Large companies often deal with HEIs at the level of the individual academic. It is usually extremely difficult for HEIs to build longer-term relationships across a range of disciplines with these organisations since personnel changes frequently and there is little incentive for short-term employees to look for wider connections nor for academic staff to open their address books to colleagues. The best collaborations are built by research-based centres working with a range of key customers. Our business development officers actively seek partners in response to academic needs with a view to building wider relationships.

We often receive requests for information from large companies. However these are usually extremely speculative 'fishing' exercises and usually undertaken by email at quite a junior level. Such activity does not generally appear to be driven by strategic need.

Companies are generally reluctant to pay the full costs of research. Overhead recovery from industry ranges between 25-100% Actual costs are nearer 150-200%. This is exacerbated when links are developed by individual academics where there is often an incomplete understanding of how to cost projects and of the value being delivered or expected by the company. Until relatively recently this University has had neither the capacity nor the expertise to enter into proper discussions with larger companies concerning intellectual property and exploitation issues. We tended to simply accept

most of the terms and conditions imposed upon us by research sponsors. However, thanks to new funds from Reach Out and HEIF we are now able to enter into a more constructive negotiation with sponsors. While this adds time to the process it is leading to a more equitable relationship where the funder is generally prepared to make trade-offs between the bill for the research and eventual ownership and exploitation of IP. This requires a dedicated professional staff.

## **4. SKILLS NEEDS**

### **4.1 Employability of graduates**

Exeter works very hard to ensure that all its students leave Exeter having had the opportunity to acquire significant employability skills. Students can undertake skills-based modules as part of their degree programmes and can gain academic credit for work-based learning, even if it is achieved during part-time work. We also use degree-based student projects in certain disciplines and we attempt to coordinate this centrally so we can build business relationships effectively.

We also run the STEP programme and our own Graduate Business Partnership which places graduates in companies for up to 5 months to work on a development project. Most students who undertake these programmes discover that SME management can be challenging and rewarding and over 80% opt to stay in the South West.

Recent research in the South West has shown that the region is a net exporter of students and graduates. While students think that the region is a good place to live and study they are not attracted to work here. More needs to be done to drive up SME demand for graduates. The University's own Graduate Business partnership (see above) is a tried and tested scheme which works. However, it requires on-going subsidy and the SWRDA has no current plans to build on this to develop a region-wide approach to graduate retention.

### **4.2 How do businesses communicate needs?**

We are concerned that the new Sector Skills Councils will find it difficult to gain training needs information from business, particularly from SMEs. We have recently compiled needs analyses for the biotech and environmental sectors and found that almost every company had different needs and not enough time to deliver on them.

It will therefore be difficult for the small number of SSCs to provide anything other than a generic service or an extremely tailored one. If the latter then we would hope to be heavily involved. This is the approach we have followed with the *Enviroskills* project which has thrown up a huge range of possible interactions between the SMEs and the University. This is an area which would benefit from more investment.

The RDA's FRESA process has just begun and does not yet seem to be making the training needs delivery process any clearer. There seems to have been some lack of clarity between the RDA and the LSCs over responsibility for skills development. Indeed the arrival of the LSCs seems to have reduced our engagement with regional skills development since their lack of interest in University-level programmes has

meant that we have not been able to gain support from Government funds to boost training. Our previous engagement with Training and Enterprise Councils was significantly more productive.

#### **4.3 How can businesses attract the best talent.**

Businesses need to provide realistic wages and support the personal development of staff through individual personal development plans. They may also like to provide lateral thinking solutions to staff development such as shadowing, secondment etc. Above all businesses should take the task of management more seriously and resource it as such. This should involve the universities in more management development programmes. It may also be appropriate for universities to offer graduate training programmes which can be used by SMEs taking on graduates (perhaps for the first time) so that graduates gain a large company package with all the benefits of small company responsibility.

Closer working with more proactive University Careers Advisory Services would give companies a better idea of what is driving graduate recruits and how to develop their benefits packages to suit.

### **5. COMMUNITY ENGAGEMENT**

The University has very strong links with the community. It runs the City's main theatre and concert venues on the campus. It has a vibrant arts and performance programme and sculpture trail. It runs a registered arboretum. Our libraries are open to all-comers. Our students donate over 50,000 hours a year to community activity and volunteering in the region.

Our academic staff are also engaged with agencies such as the Probation Service, prisons, hospitals, theatre groups, theology networks, museums, social services departments etc. None of this work currently receives adequate funding support. We believe that this work too could grow to form a major underpinning of research and teaching but, as for the business related work, appropriate mechanisms need to be found to encourage academic staff to focus on these modes of engagement. We currently use the HE Active Community Fund to support this (approx £90K pa).

### **6. FINANCIAL CONSIDERATIONS**

Given that all collaboration is inherently more resource intensive than non-collaborative academic work, and it requires special skills which not all academic staff possess, it is regrettable that it does not provide greater reward. The outcome of the review of the RAE is crucial to the further development of this work. The resulting process must actively encourage academic staff to seek out research partners from business and the community and from other HEIs and reward those who are best at it. Currently, while the RAE affords business interaction and other collaborations no preferential weighting, academic staff, given a choice, will prefer to stick with what they know.

Larger organisations and Government departments still do not wish to pay for the full costs of University research. Significant effort will have to be made to shift this way of thinking.

If interactions are aimed at SMEs there will always be limited take-up since only around 4% of SMEs are assumed to be ready or able to take on higher-level skills and knowledge. Given a choice, most academics will tend to want to work with larger organisations because they have potentially more interesting problems; have larger pockets; and will tend to feel much more like public bodies with which academic staff may be more familiar.

If the University works jointly with SMEs and inputs intellectual property this represents a considerable risk investment with relatively limited chance of financial return for the university or UK plc. We would naturally prefer to invest our IP in companies with a clear route to market and established management competence.

Therefore, if SME engagements are to be encouraged, particularly at a regional level then additional financial incentives must be found either from the RDAs or from central government. Potential mechanisms might be to agree set tariffs for certain types of activity or to make an additional contribution towards real overhead costs so as to make SW projects more attractive than those undertaken elsewhere. An academic would immediately see the benefit of undertaking a TCS programme in the region if the overhead contribution were raised to 90% rather than the current limit of 46%.

R&D tax credits have had no discernible effect on the uptake of research by business. Indeed it appears to be declining. Its only impact seems to have been amongst smaller high-tech businesses that are using it to offset losses during the research phase. An emerging problem with the scheme is the need for the tax authorities to validate whether the activity can actually be described as R&D. It would be more helpful if universities were able to provide a form of self-certification for research undertaken with business thereby making reclaim of tax much simpler.