

## Questions for Consultation

### 1) We would like to identify best practice and examples of excellence in business-university collaboration in the UK and abroad.

During your visit, we described a variety of ongoing partnerships (sponsored degrees, sponsored Chairs, student projects, work placements, research contracts, research institutes and so on) and you felt that the following might be used as examples of best practice.

- *BAE SYSTEMS/Loughborough University in Systems Engineering.*  
The partnership has grown, gradually, over the past 12 years. It now encompasses contract research (paid for by BAE SYSTEMS), collaborative research (eg paid for by EPSRC with industrial contributions), bespoke teaching (MEng, MSc and CPD Short courses), liaison with schools (eg advice to BAE SYSTEMS' sponsored specialist Engineering Colleges, mentoring of 6<sup>th</sup> Form students, and assistance with marketing of courses) and support for overseas sales (eg a joint-venture company providing access to the UK's educational services).

Loughborough is the chosen Strategic Academic Partner, globally, for BAE SYSTEMS in Systems Engineering.

All of these are being brought together in the creation of a joint Systems Engineering Innovation Centre (SEIC) on the Loughborough Campus. The SEIC will be the national centre of excellence for Systems Engineering. It will have 70+ professionals from the Company and the University in post by 2006 undertaking joint research, teaching and providing knowledge and technology transfer services to the East Midlands. Additional 'blue-chip' companies will be invited to join as partners to complement the existing skills and provide cross-fertilisation of ideas. The Company's aim is to increase its capabilities in this emerging and key discipline. The University's aim is to develop the UK's leading academic department in the discipline.

Staff from BAE SYSTEMS gave you a presentation on the SEIC. Copies of their slides are enclosed as requested.

- *Ford/Loughborough University in Retail Management.*  
Loughborough's Business School has a long-standing expertise in retail marketing and management. Ford has taken advantage of this by sponsoring extra staff in the department (including a Ford Professor), by sponsoring the creation of a comprehensive portfolio of degree-level courses (BSC, MSc and CPD short courses), and by building the Ford College on the campus for non-degree courses for Ford's dealerships.
- *Ford/Loughborough University in Automotive Engineering.*  
Loughborough's Faculty of Engineering has a long-standing collaboration in automotive engineering. This includes research, a

sponsored MSc, and a Ford Professor. Building upon these, Ford has chosen the University to be its lead academic partner for engineering in the new Centre for Engineering and Manufacturing Excellence (CEME) at Dagenham, East London. CEME is a £30M+ development funded mainly by the London Development Agency and Ford with the aid of HEFCE funding won by Loughborough. It is an entirely novel concept of an integrated set of facilities – FE teaching, HE teaching and research, business innovation, business support services, schools liaison, and conferences – all on the same site.

It will become a major element of the regeneration of East London/the Heart of Thames Gateway) now underway.

Loughborough is providing leadership and co-ordination for a consortium of service providers including FE Colleges, local universities and business support agencies.

As requested, slides of CEME (produced by Ford) are enclosed.

At a more general level, you asked us to comment on our experiences of working with companies (of which the above 3 are merely examples):

- The enclosed brochure on “Working with Industry” was produced for a dinner with industrialists at the House of Lords. It summarises and illustrates many of the points discussed during your visit.
- It is essential that the aims of a company and the University are compatible and mutually beneficial. We have many collaborations which are best described as ‘customer – supplier’ relationships. Many have been in existence for decades but they focus on specific activities (eg student work placements, student projects, contract research). Some, however, grow into a deeper relationship which is best described as a ‘partnership’. These are wide-ranging rather than narrowly focused. They require a mutual trust and exchange of information about our separate and joint goals, an understanding of our business drivers, and a willingness to work to overcome difficulties when they arise. The relationships with Ford and BAE SYSTEMS, described earlier, are examples.
- We find it useful to create working relationships at all level’s in our organizations: senior; middle; and junior. The University has dedicated section dealing with business partnerships, headed by a senior member of staff, with its own resources to help set-up and maintain partnerships. This is outside of the academic departmental structures. Our experience is that it not enough merely to establish academic/technical links (though these are essential): one must give serious effort to ‘customer care’ – and the follow-up and maintenance of a partnerships can be more time consuming even that setting-it up.
- We negotiate comprehensive Agreements to define and guide the partnerships including explicit agreement on ownership and exploitation/use of IP (generally the party that pays own the IP but

the partner(s) have free use for 'internal' purposes), academic publication, facilities to-be-provided, confidentially, governance (usually, the company chairs the key meetings), and finance. These are legal agreements but the spirit of the partnership is one in which positive intent is assumed of one's partners. It is not helpful to enter into such a partnership with an eye always to litigation as a way of solving problems.

- We encourage lots of informal contacts between the partners – again at all levels – and not just restricted to the formal business of the Agreement. Very often, a partnership started for one reason grows into something much wider as the partners learn more about each other.

The local Regional Development Agency – in our case, the East Midlands Development Agency (*emda*) – is increasingly involved with the University and our business partnerships section is charged with fostering even closer links just as we would in a strategic partnership with a company. We have found *emda* to be very supportive of our industrial partnerships (eg £4.5M grant to help create the SEIC; £0.75M grant for incubator units) but a university like Loughborough has national and international aspirations that go beyond the region. There are still problems in reconciling *emda's* regional priorities with the University's wider goals. It is true that Loughborough intends to do more for the regional economy but it is not true that our sole reason for existing is to service the region. The Government and the funding authorities have not yet found a right balance between these sometimes competing goals.

## **2) If you do not have, or would like to strengthen such relationships, what are the main barriers to doing so?**

Loughborough University has been involved in industrial partnerships since its inception. This is part of our ethos and mission and we will continue to pursue such partnerships.

It is notable, however, that the various 'reach-out' activities – even at Loughborough – have been given extra impetus by the availability of Government funding in the form of "third stream" funds such as HEROBC and HEIF. These funds enabled us to recruit additional non-academic staff and integrate the University's outward-facing specialists into one integrated section (Business Partnerships, Innovation and Knowledge Transfer) headed by a senior member of staff. The funds, in other words, changed the institutions' behaviour and consolidated our infrastructure. This was the stated intention and it worked. These gains should be sustained by formula funding as intended by HEFCE: the current mechanisms of bidding for specific and variable packages does not help with forward planning and long-term commitment to staff. We need more stability in funding.

On the other hand, there is still tension – even at Loughborough – between the potentially competing roles for an academic of research, teaching, administration and reach-out. The request, by industry, for academics to undertake near-ish market research and bespoke teaching can be in conflict

with the need to generate RAE-able papers. We are not yet promoting academics because they are brilliant at reach-out as distinct from being brilliant at research. The RAE rounds certainly shaped the behaviour of academics and made them more research output focused. The reach-out funds ought to be made large enough to make academics feel it worth their while being even more reach-out focused and the universities feel it worth their while to promote people for their reach-out skills. These activities are not incompatible. It is a matter of balance and encouragement. And increased funding changes behaviour at an institutional and an individual level.

On a specific point, we have benefited from *emda's* support with creating an incubator unit for spin-outs and support from HEFCE and others for access to venture capital. Where there is a weakness, relatively, is funding to undertake detailed market research to establish what the market needs and wants. It is too easy to assume that a novel idea is exploitable and worth exploiting merely because it is novel. A lot of academic offerings are technology driven rather than pulled by realistic market demand. We are already strengthening our marketing resources in the sense of improving our 'sales force', That is necessary but it is not the same as strengthening our 'market research force'.

### **3) A third set of questions relates to how business can attract the best graduates and postgraduates with the skills that they require, especially in technology.**

Our raft of sponsored degrees and our sandwich courses are our main contributions to getting good applicants to apply for technology degrees. The visibility of industry demonstrates that there are jobs available – the sponsorship also helps – and ensures modernity and relevance in degree programmes.

We have a very strong and successful Careers Services that is welcoming to enquiries from companies and works with them to help place students before graduation. We have a very large sandwich student scheme (800+ students on 1 year secondments every year) and this and the proven relevance of our degrees helps to make our graduates very employable.

We receive few complaints about our students' skills as our industry-orientation, the sandwich year and company sponsorship help to ensure that newly employed graduates are professionally and commercially trained. Insofar as industrial partners want even more from our graduates, their comments tend to focus on even greater business awareness. They seem happy with the technical skills we teach (and can help to keep these relevant by being involved in the teaching on sponsored degrees, for example). We are not complacent but we do not feel that the common criticisms of graduates are applicable to Loughborough. If there is a lesson to be learned from this it is that universities need to be closely involved with and responsive to industries' needs.

We asked several of our partners to comment on your questions. We understand that you have had replies from Ford, Lotus and JCB. We hope that these have been useful.

**4) the review team will also want to understand whether financial considerations currently help or hinder the relationships between business and universities.**

Government funding for teaching and research is much greater than for reach-out. Third stream funding needs to be bigger and more reliable year-on-year if it is to further influence the behaviour of universities or industrial academics.

The RDA's are increasingly influencing the distribution of reach-out funding but they tend to be focused on SMEs and purely local ventures. There needs to be more funding available to support the larger activities such as the SEIC and CEME described earlier. Both of these benefited from RDA funds and would not have happened otherwise. It is not realistic to expect the large companies to fund everything from their own resources and universities certainly cannot afford to do so.