May 30, 2003

The Lambert Review of Business-University Collaboration
1 Horse Guards Road
London
SW1A 2HQ

Dear Richard,

Lodestone Innovation Partners assists universities in forming start-up companies based on their intellectual property. Please find enclosed our brief responses to the issues you have raised in your review based on our first-hand experience of university innovation and spin-out development. If you would like further information my business partner, Timothy Barnes, and I would be happy to discuss some of these issues further.

Lodestone Innovation Partners is a young company that works solely with universities to support their technology transfer and innovation activities. Primarily we focus on building what we term "investor-ready" businesses by working as launch managers with early-stage technology projects to develop the commercial aspects of the company and attract the necessary expertise, resources and relationships to attract funding.

We are aiming to build a network of launch managers for university based projects and our approach has been developed in response to one of the biggest problems universities have in commercialising new technologies: Finding commercial management able to work with promising technology projects at their earliest stage, when there are no funds to support a full time management team. In addition, we develop and promote university-based innovation and technology transfer by developing networks, conducting events and producing research.

Through our activities we aim to help universities increase their internal capacity to find and nurture innovation while expanding their external reach, networks and interaction with industry.

Yours sincerely,

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Questions for Consultation

1) We would like to identify best practice and examples of excellence in business university collaboration in the UK and abroad. Some examples of the types of collaboration that we would be interested in hearing about include:

- *Industry's use of the information contained in academic publications, and academia's use of industry patents and prototypes or vice versa.*
- *Joint ventures between universities and business, for example, personnel exchange or collaborative research and development projects.*
- *Informal contacts, for example, meetings and conferences, use of science parks, business-university liaison, industry sponsored university posts or studentships, work experience for students, business contributions to curriculum development, academic secondments in industry and provision of continuing professional development training by universities for business.*
- *Formal contracts, for example, the use of licensing, research contracts, consulting projects, establishment of spinout companies, product testing, or business support.*

We would also be interested to learn how the relationship came about. Were your local Regional Development Agency or Sector Skills Council involved? What more could be done to facilitate successful partnerships?

Lodestone Innovation Partners (IP) works with university based technology transfer offices to support the development of entrepreneurial activities within universities. Our goal is to help universities increase their capacity to find and nurture innovation internally while also expanding their reach, networks and interaction with industry externally. This is done primarily by providing launch management to technology projects in order to increase the quality and quantity of spin-outs emerging from universities. We are working with a number of spin-out projects currently, providing launch management in order to attract the necessary expertise, resources and relationships to develop these projects. We are aiming to build a network of launch managers that are able to work on early-stage university based projects.

The London Development Agency is supporting some research we are about to commence into the problem of lack of entrepreneurial management in spin-out projects. This research aims to identify the management characteristics needed for very early stage spin-out projects and then how to increase the volume of managers that can be found to work with these projects by looking at mechanisms that can help reduce the risk for managers getting involved. This includes both trying to identify and then match existing candidates to projects as well as how to train potential candidates.

Lodestone IP has also organised the development of the UCL E-Challenge which seeks to provide workshops around a business plan competition to help students and staff increase their understanding of entrepreneurial and commercialisation concepts. As part of this program a "Meet the Spin-out" event was organised to enable industry and investors to get to learn more about emerging spin-outs and business activity at UCL. UCL and LBS were involved in the E-Challenge program with the aim to match technology skills with business skills in the building of teams. We managed the program with support from commercial sponsors who provided speakers and mentors for some of the ideas developed.

We are involved in some projects that have a European or UK focus but many of our activities are currently focussed on Greater London and given our position working with a

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variety of London based institutions we hope to help in the sharing of best practice between universities and increase future collaboration. We also have good links to initiatives such as the London Technology Network focussed on technology licensing and industry collaboration as well as Simfonec, which is a new initiative aimed at providing education and training to technology transfer professionals as well as providing business and commercialisation skills to technology entrepreneurs focussed in the life sciences area.

Another program of interest you should investigate is the CTES (Chevening Technology Enterprise Scholarship) program which is being organised by the Centre for Scientific Enterprise London. The program is aimed at non-EU students from around the world where the scholarship aims to deliver the skills to allow participants to be effective at technology transfer and the commercialisation of innovation, combining technology and business training with specific commercialisation projects either spin-outs or in collaboration with industry. Participants, known as CTES fellows, will come from a university environment or from industry and will be hosted by renowned British university departments.

2) If you do not have, or would like to strengthen such relationships, what are the main barriers to doing so? These might include:

- *Management and organisational issues. How can businesses and universities best organise themselves in order to benefit from each other's resources? Do the present mechanisms for priority setting, decision-making and funding in the university sector help or hinder business-university collaboration? What changes might encourage collaboration?*

Many universities do not have a focused mechanism to promote, attract and manage external collaboration. This needs to be a central goal for institutions in order to remove the bureaucracy associated with dealing with universities. Industry works on commercial time scales and if they are to work with universities, the universities have to externally be able to manage with this view in mind. Given our experiences in general the mechanisms for priority setting and decision making are a hindrance to collaboration and a more effective focussed approach needs to be used so that industry has the confidence that any dealings will be handled at an appropriate time scale and in a commercially oriented way. Collaboration is further encouraged if the Institution provides a dedicated contact to the outside world in relation to industry activity which then work to manage the relationship inside the university with out passing things off to too many other departments that may exist and take time to progress any action. This contact ideally should have commercial/industry experience with an understanding of the university environment.

- *Technology transfer. What are the barriers? How can it be made more effective?*

Universities traditionally lack experience in technology transfer and technology transfer personnel are often not incentivised and empowered within the university structure to develop projects and enhance technology transfer activity. By having people who have both a combination of commercial and technical skills and are empowered and incentivised to drive projects forward, universities can better deal with technology transfer issues. From our experience many great technologies remain dormant in universities because technology transfer functions do not have the time and resources to be able to effectively promote and drive development of technologies either as a license to industry or in the development of spin-out companies. Given the scale of the research being carried out in most universities, the

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technology transfer function at any given university barely has enough time to promote its activities inside the university and deal with bureaucracy let alone spend time on developing projects and liaising with industry and investors.

Intellectual property. Are the present arrangements understood and appropriate?

IP policy varies widely between universities ranging from very strict to practically non existent which leads to great uncertainty when working with universities. Many institutions do not have a clear policy on IP that is understood by staff and students who are often unaware of who to turn to within the institution in order to get advice on this issue. Further education and communication of policy needs to be made preferably through the use of real life examples and how it may relate to student and staff needs in this area. Technology transfer offices have to work to ensure greater visibility inside universities so both staff and students are aware of their role in IP identification and protection as well as support programs to educate student and staff on IP and commercialisation principles.

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. Questions include:
• Is the quality of graduate recruits satisfactory? Are there any obvious gaps in terms of skills and disciplines?
• How do businesses, individually or collectively, communicate their needs for specific scientific or technical skills and for the development of relevant courses in universities?
• How could more attractive career paths for science and technology graduates and postgraduates be developed?

Involvement in and training in entrepreneurial activity could help develop more attractive career paths for many graduates and postgraduates. Participants in the UCL E-Challenge program have commented on the considerable benefits they have received from participating. Use of funding and scholarships to enable graduates and post graduates to work in spin-out projects or in industry based SME's would give good experience and a perspective on how they can use their skills to develop new products and businesses which would be invaluable for the future.
Many venture capital funded start-ups have projects they would like to investigate but do not have the time and focus to explore properly, however a program where postgraduates for example could be matched with a company on specific projects would have considerable benefits for both and is a program we are looking to explore..

• What plans does business have to attract the best talent in the future and are the universities made aware of them? If not, what more could be done to facilitate such a dialogue?

Specific to spin-out companies, I would like to draw your attention to the Teaching Company Scheme (TCS) which is very successful in some universities and could be further developed in others. The scheme can be very beneficial to SMEs in matching graduates to companies for several years which aids in building a relationship between a university and the business. However for university spin-outs that need to build a team or for the venture capital funded start-up example used above the TCS is rarely applicable. This is because there is a requirement that a company must have been in existence for at least three years to participate

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in TCS. This requirement limits these early stage companies from deriving any participation in the scheme which could be of considerable benefit.

4) The review team will also want to understand whether financial considerations currently help or hinder the relationships between business and universities. Questions include:
- *Are there ways in which the present financing arrangements could be made more effective?*

The majority of funding mechanisms for university based technology projects are ineffective. University challenge funds, regional VC funds and other new measures have been largely unsuccessful with regard to university based innovation. This is primarily because the management of these funds is not appropriate for the university environment and the risk profile is not typically in line with the needs of university based projects. Funds have generally helped increase the physical number of university spin-outs but not in increasing the number of long term viable businesses.

There needs to be greater focus on increasing the quality and quantity of projects emerging from universities through what could be termed Proof of Concept type funding which provides capital to develop the prototype technology as well as support initial commercial development through funds to support initial management. Money is not the only element and management particularly with university based projects is needed to get most projects started. Thus early funding has to be coupled with mechanisms to attract and/or train management that can help build companies to an investor-ready stage which will then be attractive for investment from the traditional VC market.

The Smart grant program is the best existing scheme in this area but timing and some rules such as the 25% equity holding limit for universities reduce the volume of companies that can use this scheme. Funding earmarked to university challenge funds could be better used if it was focussed on reducing risk in developing university based projects and was managed with the university's requirements in mind rather than supporting the management of existing venture capital providers who typically can not provide the hands-on support to university based projects which is required. Greater and more effective integration between technology transfer functions and funding mechanisms need to be seen so that funds are provided with the appropriate risk profile and flexibility in order to improve the quality of projects.

- *Has the introduction of R&D tax credits influenced business demand for research and skills, and if so, how? Are there other means to the same end?*

We have not dealt with the R&D tax credit but from various companies we work or partner with we understand that there is an increasing awareness of it. However from what we have seen it does not seem to having much effect in increasing university- industry collaboration.

The review team welcomes written submissions by e-mail to lambert.review@hm-treasury.gov.uk or by post to The Lambert Review of Business-University Collaboration, 1 Horse Guards Road, London, SW1A 2HQ, UK by 17th April 2003. **Unless submissions are specifically marked as confidential, they may be posted on the review website** at www.lambertreview.org.uk (from mid February.) Please include the name and contact numbers of the person to contact for any follow-up discussions.

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