

Lambert Review of Business-University Collaboration

Response by the University of York

Summary

University of York

The University is one of Britain's most successful universities. It is one of six universities regularly ranked among the top ten in league tables and the only one of these in the north of England.

York is ranked in the top ten of UK research universities. 93% of its academic staff were included in the latest Research Assessment Exercise (RAE) and 84% of these are in the University's eighteen 5 or 5* departments. It is ranked first for teaching quality.

The University plans to grow by around 70% in the next decade and will play a growing role in driving forward the regional economic strategy.

Science City

The Science City York initiative is a distinctive partnership between the University of York and the City of York Council and works to a business driven agenda. Its goal is to harness the world-class research base to create and grow successful businesses.

Science City places science and technology jobs at the heart of the local economy and has created over 1,800 new jobs and 30 new businesses. It aims to create 18,000 extra high technology jobs by 2021.

In 2002, a Dun and Bradstreet study identified York as the most profitable location in the UK for business.

Science Park

The 21 acre York Science Park is situated on the university campus and provides business with high quality serviced office space and state of the art laboratories. The Innovation Centre, Biocentre and IT Centre (to be completed in July 2003) provide incubation space and access to world-class research, technical facilities and a growing community of science-based and high technology companies. These facilities have received major funding from the regional development agency, Yorkshire Forward.

Over 1,000 new jobs have been created on the Science Park.

White Rose Consortium

The White Rose Consortium brings together the three leading research universities in Yorkshire and the Humber (York, Leeds and Sheffield). Together they possess research strength and funding exceeding either Oxford or Cambridge.

Through the White Rose Technology Seedcorn Fund, growing companies can receive venture capital funding and management input. 14 companies have so far been created and funded with a further three being progressed.

It is a strategic partner with Yorkshire Forward in major business initiatives helping deliver the regional economic strategy. The White Rose Grid, a form of powerful distributed computing, is identified by the PriceWaterhouseCoopers Technology Forecast 2002-2004 as one of the most significant trends for business. The Grid is already being used by Shell and Rolls Royce.

1. The University of York – background

1.1 The University of York has established itself as one of Britain's most successful universities. It is one of six universities regularly ranked among the top ten in league tables and the only one of these in the north of England.

1.2 The University is ranked first in the UK for teaching quality and has excellent records for student retention and employment.

1.3 There are around 10,000 students in all of whom 80% are from state schools with over 2,000 postgraduates. York employs more than 1,000 academic and research staff with computer science, chemistry and biological sciences dominating both the research grant and contract income.

1.4 93% of its academic staff were included in the latest Research Assessment Exercise (RAE) and 84% of these are in the University's eighteen 5 or 5* departments. There are 23 academic departments and a dozen research centres and institutes.

1.5 Turnover is £115m including £28m externally won research grants and contracts. UK industry accounts for £2.5m direct income.

1.6 The University is consistently ranked within the top ten UK research universities and plays a central role in one of the UK's most dynamic bioscience clusters with major strengths including drug development, computer sciences, bioinformatics, plant biotechnology and health sciences.

1.7 The new Hull-York Medical School admits its first students in September this year and the University is planning a 70% increase in student numbers over the next decade and a doubling of campus size. It is planned that enterprise and technology transfer work will occupy around one third of the new campus and be integrally linked to academic departments.

2. Structure and governance of business - university relations

2.1 The Department of External Relations and the Research and Industry Office work together to manage the university interface with business under the directorship of the Pro Vice-Chancellor for External Relations. Two Assistant Directors support the Director with specific responsibility for research and industry and for regional partnerships.

2.2 The Pro Vice-Chancellor for External Relations, Professor Tony Robards, chairs the Bioscience Cluster for the Regional Development Agency, Yorkshire Forward, and is a board director of Business Link York and North Yorkshire.

2.3 Through a major sponsorship with HSBC bank, Professor Robards is also HSBC Professor of Innovation and provides expert opinion on around 50 bioscience and technology business proposals each year for HSBC. He also organises around six

professional training courses on business appraisals for HSBC bank managers each year.

2.4 University accountability is through the Pro Vice-Chancellor to the Policy and Resources committee of the University and ultimately to the Council.

2.5 The range of activities includes exploiting research through identifying and protecting the university's intellectual property, technology transfer, creating spin-off companies, licensing and joint ventures, developing an entrepreneurial culture, generating research income from funding councils, industry and the EU and managing research contracts.

3. Science City – a distinctive collaboration

3.1 The Science City York initiative was launched in 1998 as a result of an Ernst and Young study which identified three knowledge-based clusters – Bioscience and Healthcare, Information and Communications Technology and Arts and Heritage Technology.

3.2 It is a distinctive partnership led by the University and the City of York Council closely working with private enterprise. It has the goal of harnessing York's world-class research base to underpin the creation and growth of competitive, successful businesses.

3.3 It is well integrated with local and regional economic strategies and cited by the regional development agency, Yorkshire Forward, as exemplary. Science City York works to a business driven agenda and is at the heart of the local economy.

3.4 During its first four years of operation, the Science City York clusters saw the creation of over 1,800 new jobs and 30 new businesses bringing the total to some 9,000 science and technology jobs and in excess of 240 high technology companies.

3.5 Science City aims to create 18,000 extra high technology jobs by 2021. It aims to generate substantial business growth and high quality employment and to ensure that York's international recognition as a centre of scientific and technological excellence is further enhanced. Science City provides business advice, networking events and aids technology transfer in York through consultancy and advisory services, mentoring, coaching and secondments of staff.

3.6 A significant factor in the effectiveness of Science City York has been the engagement of the private sector. For example, the move to York of Smith and Nephew's global corporate research centre was an important step and the company has remained actively engaged.

3.7 In 2002, a Dun and Bradstreet study identified York as the most profitable location in the UK for business.

3.8 Further clusters are likely to emerge. In addition there are significant synergies and overlaps between the clusters in areas such as bioinformatics and the application of digital media techniques to enhance York's heritage attractions.

3.9 According to a recent study by AD Little commissioned by Science City, technology transfer provision in York stands up well against the generic models of good practice. The challenge for the future is to 'ensure that the scale of provision is adequate to serve the potential opportunities that exist and the growth aspirations of the Science City, and to ensure that a full and rich range of support is available to all who can utilise it to good effect.' (*Technology Transfer in York – A Mapping Study for Science City* AD Little March 2003).

4. Science Park at the University of York

4.1 The 21-acre York Science Park is situated on the University of York campus at Heslington in the south east of the city. A joint venture between the University and P&O Developments, York Science Park Ltd is chaired by the University's Pro Vice-Chancellor for External Relations and HSBC Professor of Innovation.

4.2 It offers a range of high quality business accommodation with the development of the Innovation Centre, Biocentre and IT Centre owned by the University and offering a range of fully serviced offices and state of the art category II and III laboratories, each with a fully adaptable layout, a range of sizes to suit all business needs and flexible rental terms.

4.3 The Innovation Centre, completed in August 1995, was designed as an incubator unit and fully let on completion. The Biocentre was completed in spring 2002 and the IT Centre is due for completion in July this year. These facilities have received major funding from Yorkshire Forward.

4.4 Tenants can gain access to University academic research, technical facilities including high value equipment, specialist technicians and an extensive library. The campus location offers business tenants access to a range of established Science Park tenants including Smith & Nephew Research Centre, IOKO365, Ribotargets and Human Computer Interaction (York) Ltd.

4.5 Location at the Science Park facilitates access to the approximately 2,900 bioscientists and over 250 high technology companies situated within a six mile radius of the city of York.

4.6 Now with more than 1,000 jobs created, the current Science Park site will be fully developed by the end of 2003.

4.7 Current plans for the new University campus on Heslington East will double the size of the current campus site over the next decade with one third dedicated to technology transfer and business development.

5. The University and technology transfer

5.1 The University has produced some 23 spinouts over the past 15 years defined as companies started by university staff or students in York and those in which the University has an equity stake or with which it has a licence agreement. It has registered 17 patents.

5.2 One company created by York graduates –IOKO 365 - now employs more than 150 staff and is situated on the York Science Park

5.3 In specific areas, the University has a strong record of new business creation together with a number of valuable champions who are willing to share their experience with others. This has been a particular feature of the departments of Biology, Chemistry, Computer Science and Electronics.

5.4 Biology has a strong record of exploitation not only through spin-out generation but through services to companies e.g. via the Centre for Cell and Tissue Research and in cancer research.

5.5 If technology transfer is considered to include knowledge transfer and its commercialisation then there is relevant activity in other departments that undertake consultancy and other quasi-commercial activities such as Economics, Music and music technology and the Centre for Health Economics. The latter already provides consultancy and other support to the NHS, medical practices and the private sector at both regional and national levels.

5.6 The University works closely with York Inward Investment Board on attracting major science based companies and start-ups to the city. A recent success has been the positive choice of York as the base for the US health sciences company Enlightened Technologies. The University is receiving increasing number of approaches from private sector companies and venture capital firms from the UK and the US.

6. Bioincubator York Ltd

6.1 This was originally a joint venture company sponsored by BMI and is now a wholly owned University subsidiary.

6.2 Bioincubator York Ltd (BYL) is responsible for 7 spinouts in biosciences over 5 years with two more in the pipeline and business is represented on its board. It is exploring the potential of joint working with Smith and Nephew and the Central Science Laboratory.

7. Centre for Novel Agricultural products (CNAP)

7.1 The Centre for Novel Agricultural Products (CNAP) occupies purpose built facilities in the £25m Biosciences building at York with capacity for over 100 researchers.

7.2 Gene discovery is key to CNAP's research strategy combining a knowledge of biology, the techniques of genomics and an awareness of commercially viable products needed by society. It has adopted a proactive approach to the creation, protection and exploitation of intellectual property addressing selected target markets that include pharmaceuticals, nutraceuticals, biomaterials, fine chemicals, speciality chemicals and bioremediation.

7.3 It operates under a clear business plan externally monitored against agreed milestones through a Management Board and a Science Board, both chaired by Sir Dai Rees. Annual reports are presented to external sponsors and to the University.

7.4 Established with substantial funding from the Garfield Weston Foundation and UK government, CNAP aims to rapidly expand through strategic alliances and close collaborations with both industry and academia.

7.5 It has a new and developing programme of public understanding and awareness with projects aimed at policy makers, schools (funded by the BBSRC) and the wider community and the general public.

7.6 CNAP has recently established a US/UK research collaboration with the Oklahoma based Samuel Roberts Noble Foundation focusing on developing new health products from plants.

8. White Rose Consortium

8.1 The White Rose Consortium brings together the three leading research universities in Yorkshire and the Humber. The universities of York, Leeds and Sheffield constitute more than 80% of research income to all Yorkshire universities. The Consortium has research strength and funding exceeding either Oxford or Cambridge.

8.2 It is a strategic partner of Yorkshire Forward in major business-industry initiatives. An excellent recent example is the development of the White Rose Grid, a form of powerful distributed computing that involves sharing computers, applications, data, storage and network resources across dynamic and geographically dispersed organisations.

8.3 According to Price Waterhouse Coopers Technology Forecast 2002-2004, use of the Grid by companies will be one of the most significant trends for this period.

8.4 It is being used for collaborative research and development with commercial companies. Shell and Rolls Royce are already actively using the Grid and it provides opportunities for industry sectors to work on common problems through the provision of powerful computing resources and large data sets that can be shared by a seamless and secure collaboration amongst geographically dispersed communities.

9. White Rose Technology Seedcorn Fund

9.1 The Fund has just under £9m to invest (£4.5m from government, £1.5m from the White Rose Universities and £3m for the RDA) and can provide venture capital funding of between £5,000 and £400,000. The risks and rewards are shared. It provides management input, advice and experience to growing companies. The universities of York, Leeds and Sheffield are eligible. It is professionally managed by Aberdeen Murray Johnston.

9.2 14 companies have so far been created and funded with a further three being progressed. Total commitment so far is £5.5m

10. White Rose Centre for Enterprise

10.1 The Centre has the twin objectives of increasing the enterprise content of undergraduate and post-graduate courses and of increasing the rate of technology transfer, especially the rate of spin out of new companies.

Aims include:

-to promote curriculum changes by fostering enterprise, stimulating the development of an effective network with business in the region and supporting the development of new teaching and learning material

-to increase the entrepreneurial skills of graduates

-to run a Business Development Programme and assist in the increase in the number of university spin-out companies

-to run an annual Business Plan competition for students across the three universities with up to £25,000 in prize money and mentoring available for winners.

11. White Rose Bioscience Forum

11.1 The annual Bioscience Forum held at DEFRA's Central Science Laboratory close to the University attracts more than 200 bioscience industry representatives, entrepreneurs and academics with presentations of leading edge research and workshops on new business creation. One day of the forum is dedicated to investors and those offering professional services. The Bioscience Forum is supported by Yorkshire Forward.

12. University 'Reach Out' to industry

12.1 The University's relationships with business and industry are strengthened through a range of 'Reach Out' activities, funded by the Higher Education Reach Out to Business and the Community Fund. These are designed to further strengthen the

entrepreneurial culture within the university, forge strong strategic links with regional organisations (including a very positive relationship with Yorkshire Forward) and contribute to delivering the regional economic strategy.

12.2 The aim is to provide an accessible and co-ordinated service delivered by individual advisers experienced in working with technology-based businesses.

13. Proof of Principle Fund

13.1 The Proof of Principle Fund, with HEIF funding, is used for feasibility studies, demonstrators and prototypes and can provide amounts between £5k and £20k.

13.2 Seven projects have been supported so far with three creating new spinouts. These include projects in electronics, biology, physics, social policy, management and archaeology.

14. STEP

14.1 York has been distinctively successful with the DTI STEP scheme helping small firms meet skills shortages and encouraging small business owners to employ graduates and students.

14.2 In 2002, York students reached the national final producing both the national winner and third place.

15. Knowledge Base Ltd

15.1 KBL is a joint venture company part funded by the University to provide training and development for SMEs in York and N Yorkshire. The board comprises representatives from Business Link, the Universities of York and Hull, York St John College, York College and the Learning and Skills Council.

15.2 It manages the delivery of 'learndirect' for the University of Industry in York and N Yorkshire and Sheffield and is now also managing the cost-effective delivery of UK Online. The company also researches regional business training and development needs and future skills requirements.

15.3 Knowledge Base Ltd has over 1,000 SMEs as customers.

16. Teaching Company Scheme

16.1 The University's 'Reach Out' team works to help regional businesses achieve their commercial objectives by extending the Teaching Company Scheme. There are currently four TCS projects and each aims to improve the competitiveness of the company partner, enhance graduate careers and increase the value of the University to regional business.

17. Protechnica

17.1 Based in the Innovation Centre on the Science Park, Protechnica is a consortium which offers a one-stop shop comprising HSBC Bank plc, the accountancy firm Garbutt and Elliott and law firm Harrowell Shaftoe. Together they offer a package of services to science and technology-based firms in and around York and N Yorkshire.

18. The York Professional Initiative

18.1 This group has brought together professional service providers to ensure the availability of the full range of professional service offerings to businesses in the key clusters.

19. York Enterprise Scheme

19.1 YES is an initiative co-ordinated by the University of York and Science City with support from Yorkshire Forward, aimed at supporting entrepreneurial activities in York. It runs a business plan competition, produces learning material, a programme of talks, lectures, and master classes.

20. York Award

20.1 The York Award is available to all York students and aims to develop employability through developing core skills including team working, negotiating, interviewing and presentations. The Award is validated by the University and its success has been emulated by other higher education institutions.

20.2 The York Award has seen a rapid increase in student numbers taking part (now over 350) with the active involvement of major companies including HSBC, Ford, PriceWaterhouseCoopers, Agilysis and Norwich Union as facilitators.

21. Enterprise Club

21.1 The Enterprise Club offers regular meetings for all students, staff and local business and entrepreneurs in the city of York. It provides professional business involvement in workshops. Topics include how to think creatively, bringing ideas into reality, business plans, delivery of objectives and maintaining momentum.

22. Café Scientifique

22.1 Café Scientifique is a joint venture between the University and Science City York. The University provides speakers and organisation for the York arm of the national Café Scientifique initiative. Regular meetings in a city-centre location provide informal opportunities to hear latest research findings and views on major scientific issues from experts and an opportunity for discussion and business networking.

Funded from successful bids for Government funding to encourage 'third leg' activities, these initiatives are designed to increase knowledge transfer, provide

support for business and stimulate individual enterprise and entrepreneurship among staff and students of the University of York.

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