

Research Collaboration between Universities and Business: A University Perspective

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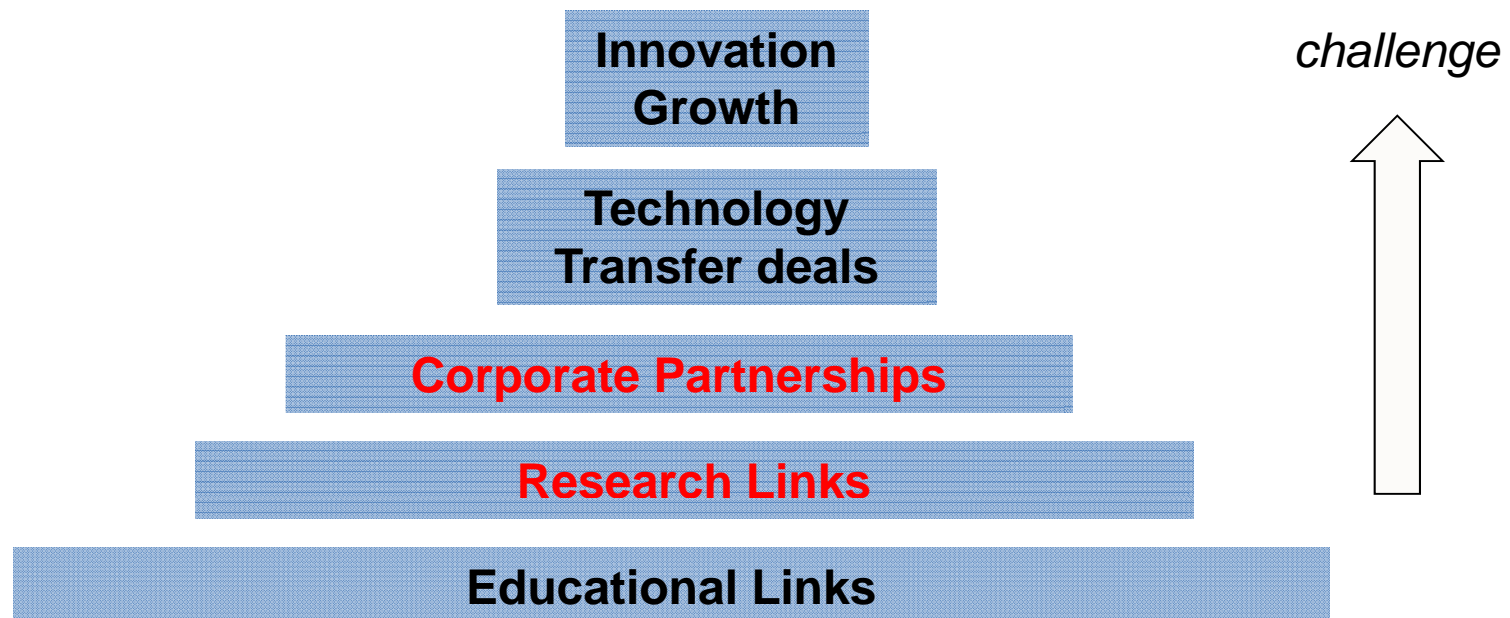
- Drivers for universities to engage with business;
- Benefits and challenges to academics of conducting research in collaboration with industry;
- Incentives for collaborative research: Impact agenda and Career advancement;
- Ways and vehicles of making research collaboration happen and be successful.

Key Drivers for Business Engagement

- Enable applied and translational research
- Accelerate commercial uptake of basic/blue-sky research
- Diversify income streams by increasing funding from industry
- Develop business partnership to drive innovation and growth



University-Business Interactions



Benefits of working with Business

- To solve interesting and challenging ‘real-world’ problems;
- To connect theory with practice;
- To generate tangible impacts of research;
- To create a new source of research funding;
- To gain access to data, equipment, expertise or networks that are not available in HE institutions;
- To produce high-impact research publications



Top 10 Challenges cited by Industry

- IP and other contract negotiations are difficult to complete, processes difficult to navigate, or take too long
- Business find it difficult to identify academic partners or where academic capability lies
- Business and academia operate to different timescales
- Lack of funding
- Lack of alignment of objectives: tension between business and university needs or objectives
- Lack of trust or mutual understanding
- Businesses focus on the short term, rather than long term R&D
- Other funding issues (for example, SME eligibility, subjects within scope)
- Low overall levels of business investment in R&D, including a lack of absorptive capacity
- Lack of understanding within business of potential benefits of working with universities

Top 10 Challenges cited by Academia

- University metrics, including the REF, prioritise the production of high-quality publications
- IP and other contract negotiations are difficult to complete, processes difficult to navigate, or take too long
- Other pressures on academic time (teaching and research) limit resources for collaboration
- Lack of funding
- Collaborative experience not valued as part of academic career progression
- Lack of time/resource for networking or project development
- Business and academia operate to different timescales
- Tension between academic desire to publish work, and business concerns about competition
- Lack of trust or mutual understanding
- Low overall levels of business investment in R&D, including a lack of absorptive capacity

2014 UK Research Excellence Framework
(included a consideration of the 'Impact' of research and this has provided further incentives for both universities and individual academics to engage with collaborative activities)



Key Features of High Performing Research Units



1. **Inter-disciplinary collaboration;**
2. **University-business collaboration;**
3. **International collaboration.**

● Pre-requisite
● Enabling

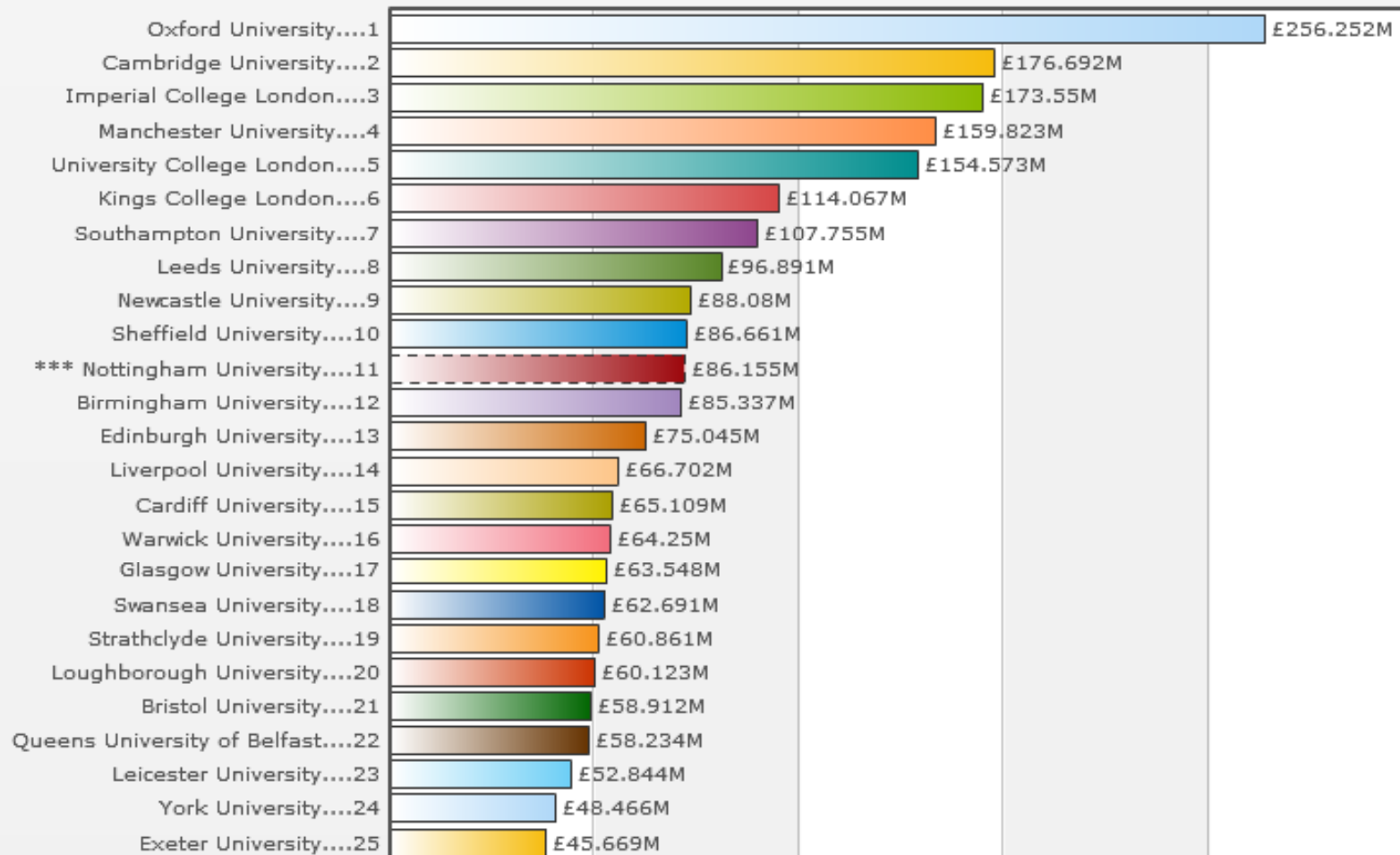


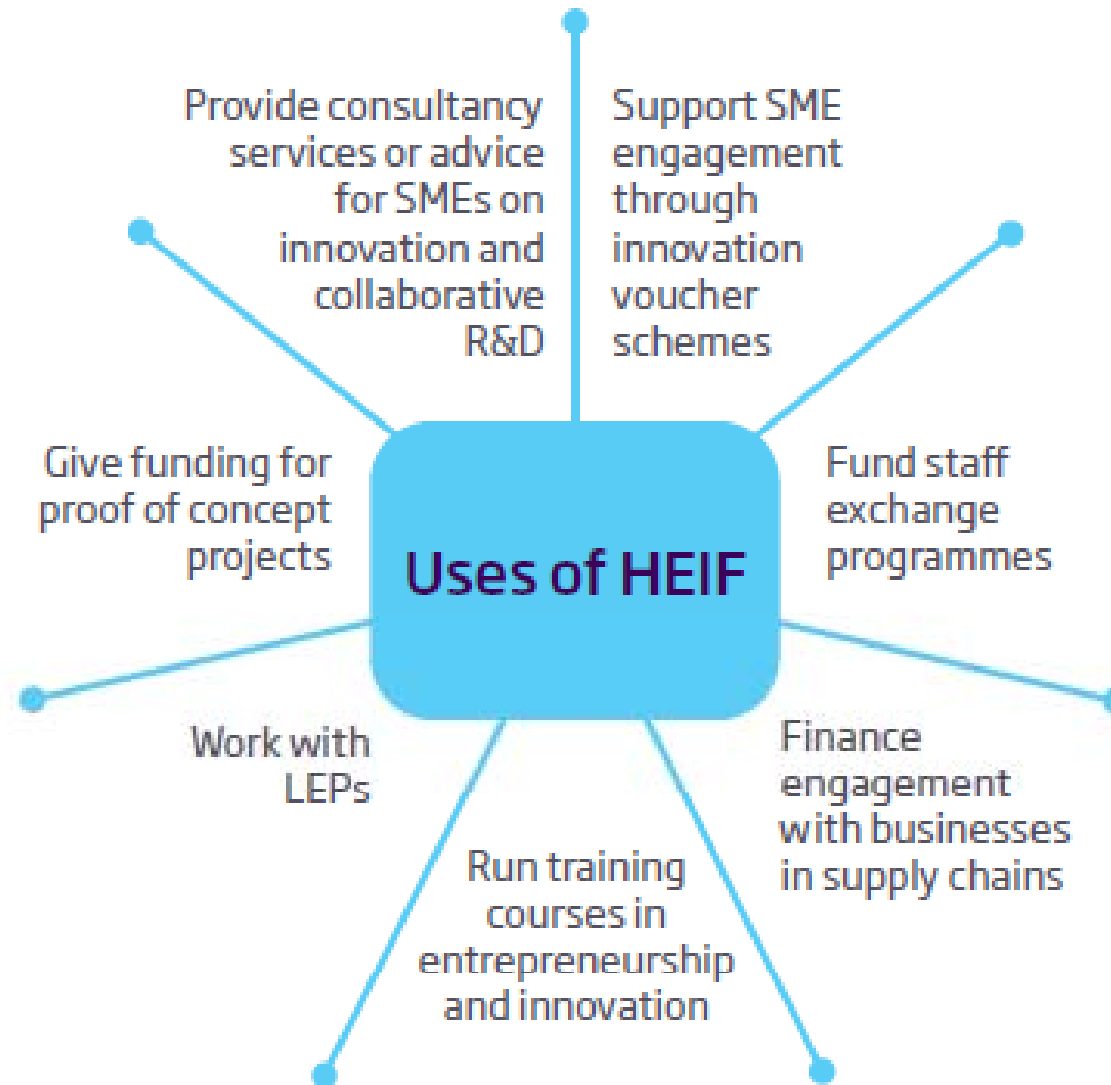
Criteria for Academic Promotion

- World-Changing Research (e.g., high quality publications, research grants, and supervision of research students);
- Teaching and Learning (e.g., excellence in teaching performance and innovation in course development);
- **Engaging with Business (e.g., collaborative research with business and knowledge exchange);**
- University and Academic Service (e.g., leadership and management);

Higher Education Business and Community Interaction Survey

Summary Income Ranking , Rank For All Institutions (160 members, Group Total £3932.717M)
For 8 sources, For 2013-2014, Shown By Value





Knowledge Transfer Partnerships (KTPs)

- KTP is a partnership scheme between a company and an academic institution to formulate and deliver an innovative project.
- KTP Associates are recruited to deliver the knowledge transfer with costs shared between the partners.
- Projects can last between 6 months and 3 years.
- The KTP scheme has been successfully running for 40 years.



Large Scale Collaborative Research

The GSK Carbon Neutral Laboratory for Sustainable Chemistry

- The UK's first carbon neutral laboratory at the University of Nottingham is part funded by a very generous gift of £12m from GSK.
- Associated activity ranges from EPSRC/GSK Chair in Sustainable Chemistry to GSK sponsorship of a number of drug discovery-related research projects in formulation for 3D printing and advanced nanomedicines.



Major Facilities Shared by Multi-Partners

MTC – The Manufacturing Technology Centre (2009-)

12,000m² - £25m new build

Completion 2011

Founders

-Rolls Royce

-AEC

-Airbus

Operators

-Nottingham

-Birmingham

-Loughborough

-TWI



International Research Collaboration

University of Nottingham – AVIC 中国航空工业集团 (2011-)

Research and Postgraduate Training Partnership

- Overseas University Innovation Centre (UIC);
- Business-driven collaborative research projects;
- PhD Cohorts;
- Masters' Cohorts.



- The University of Nottingham Innovation Park (UNIP) has over 10,000m² of business accommodation, and is home to 60 businesses employing over 600 people
- UNIP now has six buildings, with two more in construction
 - Business accommodation and networking/conference
 - Mixed academic/business
 - Technology Enterprise Centre
- Tenants, such as **Ekkosense**, **Romax**, **Coriel** and **Skeleton Productions** are increasingly connected to our research and teaching activities
- University Enterprise Zone (UEZ) status and funding



Global
Top 100
University

A Gateway for Collaboration



The University of
Nottingham

UNITED KINGDOM • CHINA • MALAYSIA

- Energy technologies
- Digital Technologies
- Satellite Navigation
- Aerospace

