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Pro Vice Chancellor (International)

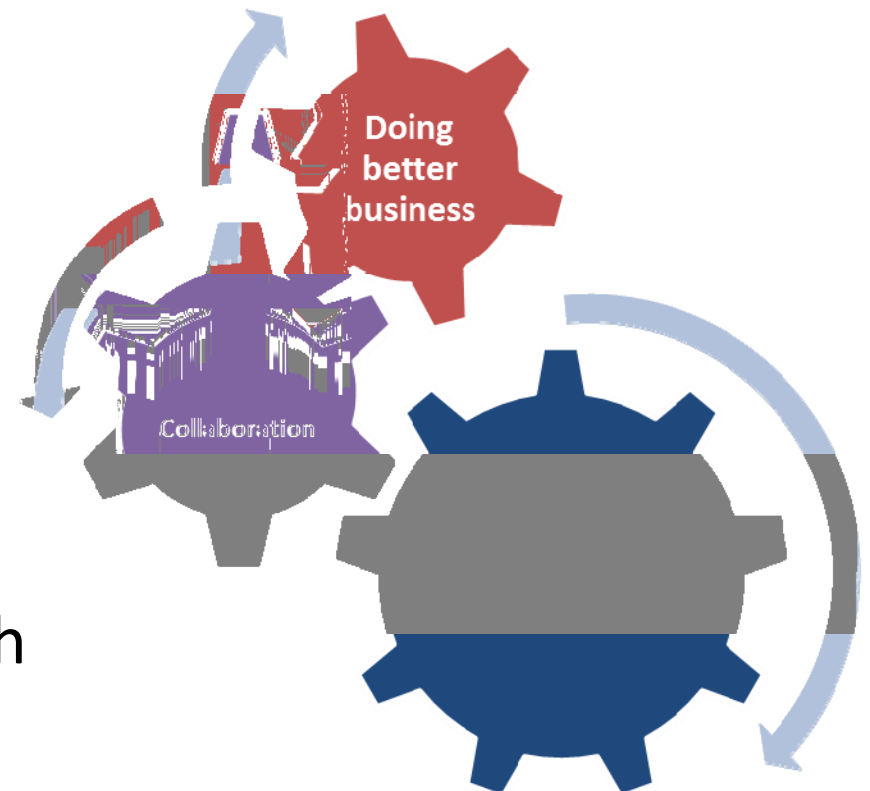
University of Nottingham, UK

*Joint RAE CAE Symposium, 4 5 July 2016, Beijing*

- 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.

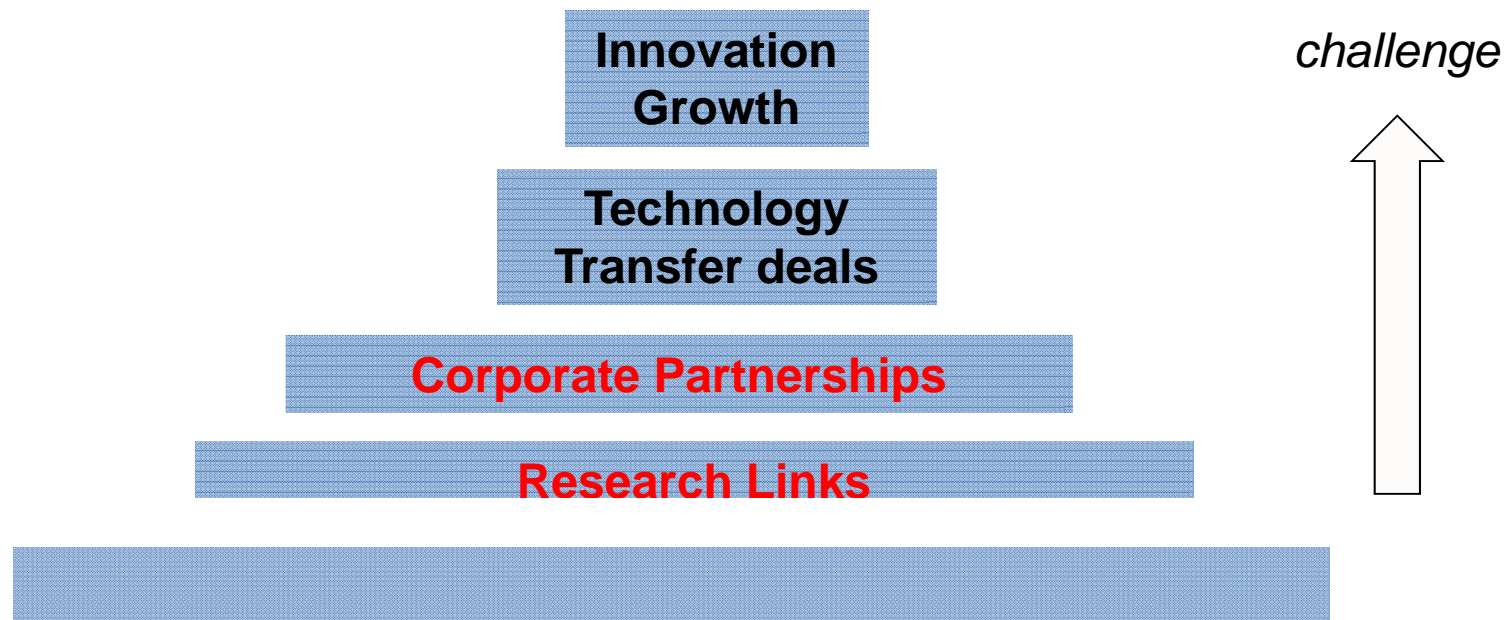


- Enable applied and translational research
- Accelerate commercial uptake of basic/blue sky research
- Diversify income streams by increasing funding from industry
- Develop business partnership to drive innovation and growth





# University-Business Interactions





- 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

- 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

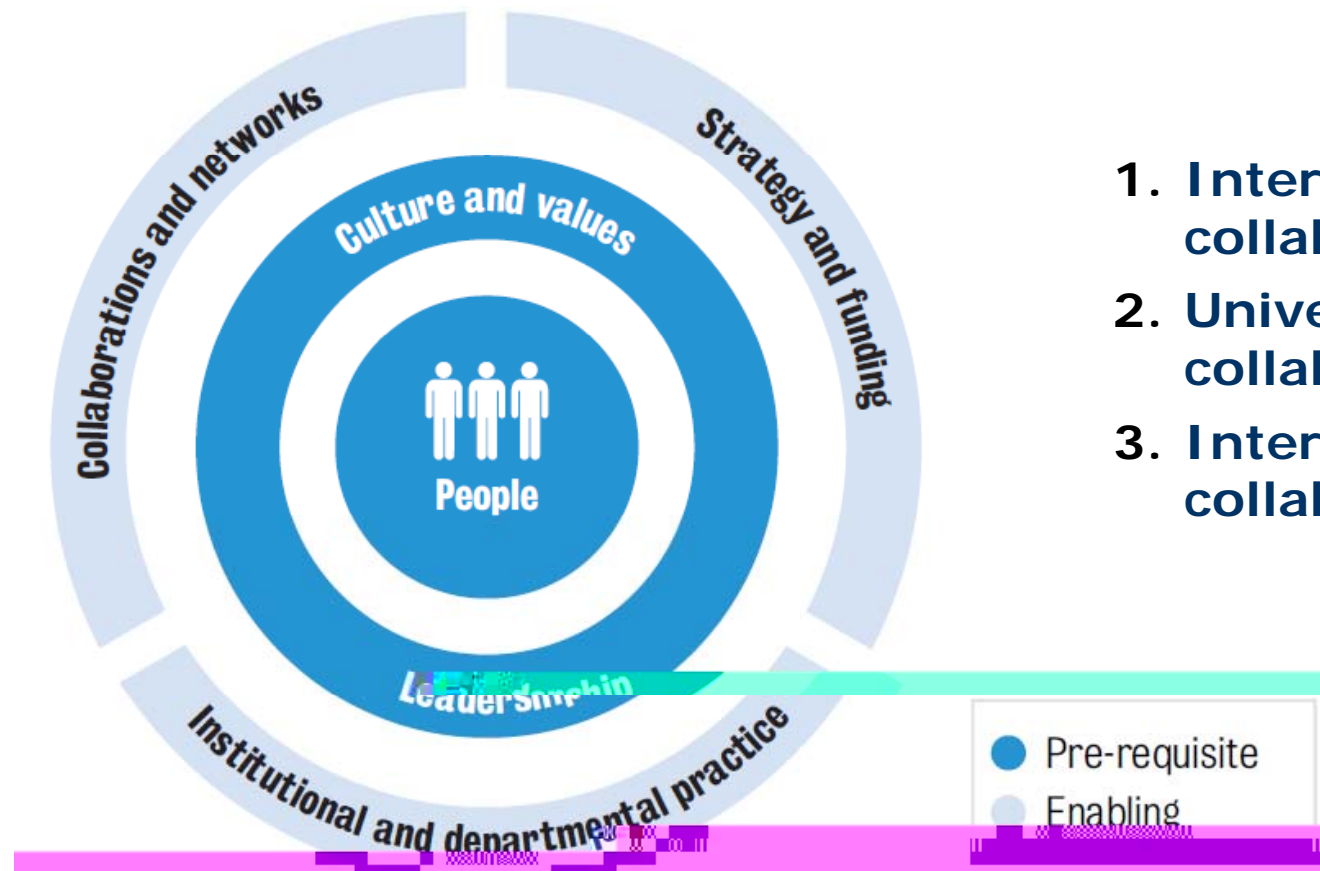
- University metrics, including the REF, prioritise the production of high quality publications
- IP and other contract negotiations are difficult to complete, processes difficult to navigate, or take too long
- Other pressures on academic time (teaching and research) limit resources for collaboration
- 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.

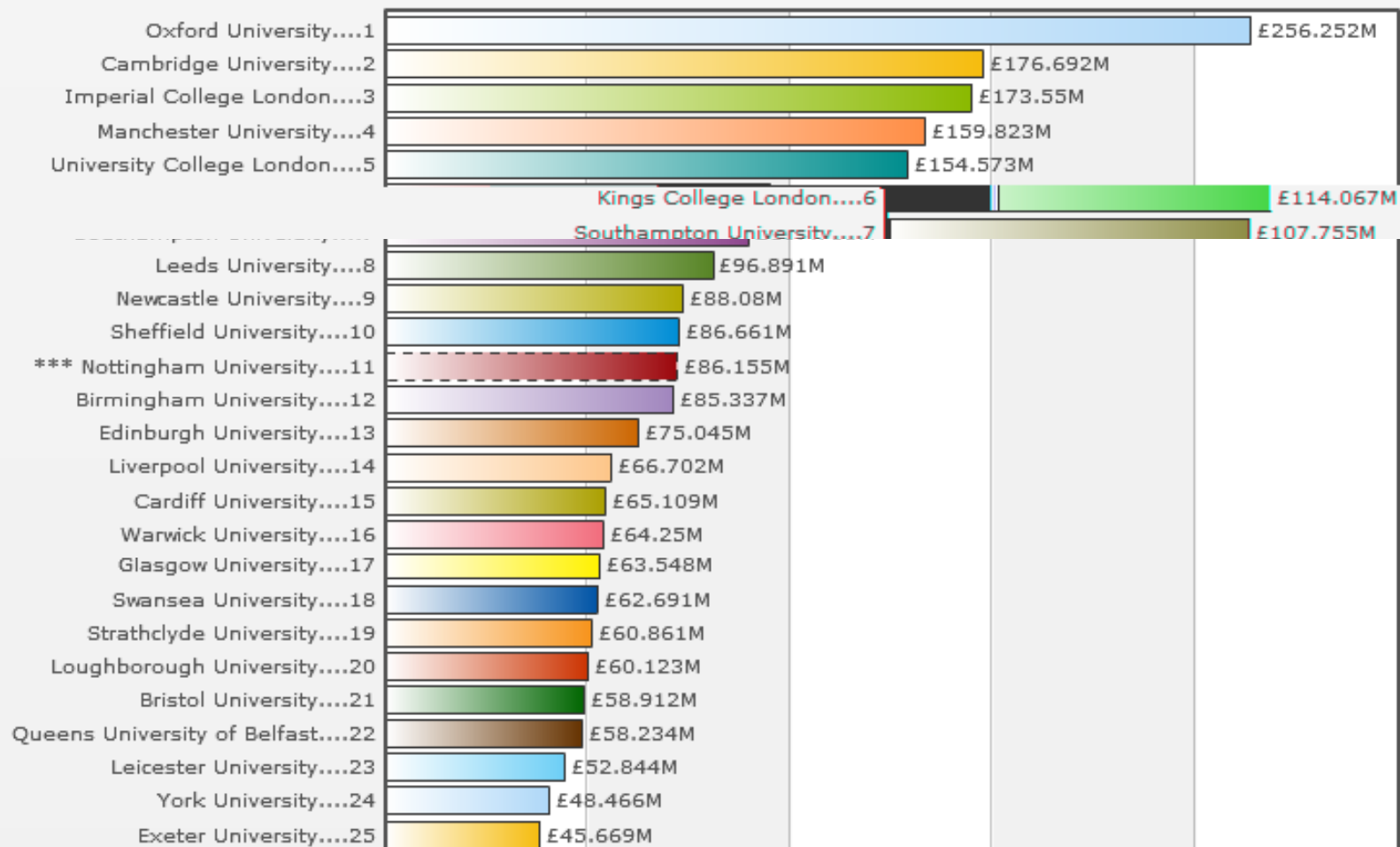


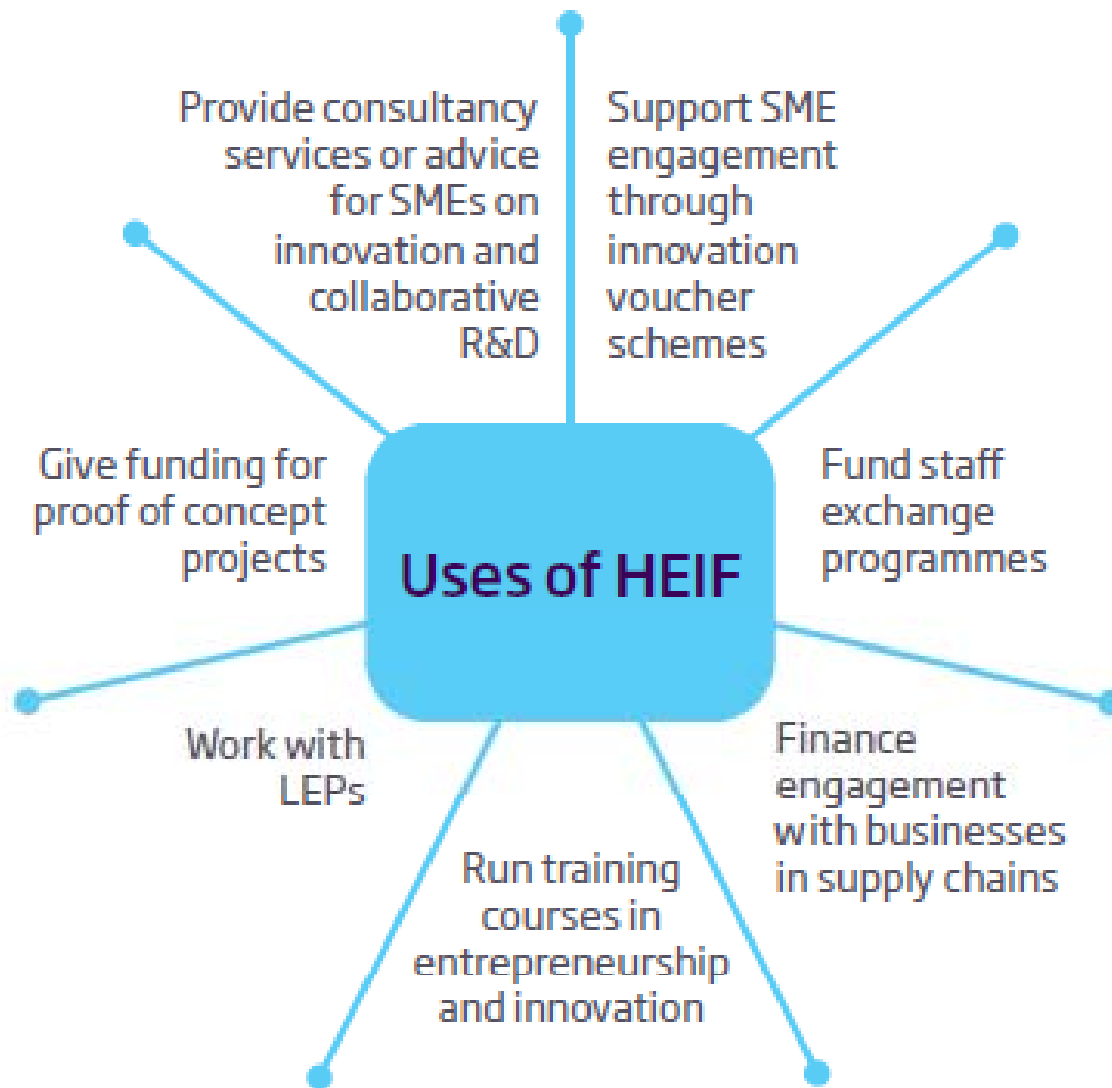
- World Changing Research (e.g., high quality publications, research grants, and supervision of research students);
- Teaching and Learning (e.g., excellence in teaching performance and innovation in course development);
- Engaging with Business (e.g., collaborative research with business and knowledge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

12,000m<sup>2</sup> - £25m new build

Completion 2011

Founders

-Rolls Royce

-AEC

-Airbus

Operators

-Nottingham

-Birmingham

-Loughborough

-TWI



The University of  
Nottingham



Loughborough  
University



UNIVERSITY OF  
BIRMINGHAM



# International Research Collaboration

## University of Nottingham – AVIC (2011-)

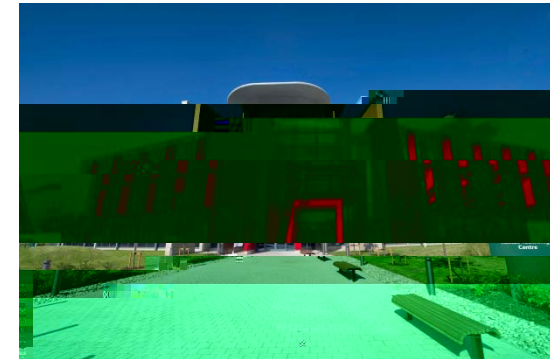
### Research and Postgraduate Training Partnership

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





- The University of Nottingham Innovation Park (UNIP) has over 10,000m<sup>2</sup> 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 [AstraZeneca](#), [Bayer](#) and [GSK](#) are increasingly connected to our research and teaching activities
- University Enterprise Zone (UEZ) status and funding







- Energy technologies
- Digital Technologies
- Satellite Navigation
- Aerospace

