

Technology Transfer at the University of Cambridge

Strategy, Policy and Practice

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University of Aveiro

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University of Cambridge

University established in 1209

Students: 17,398 (11,816 u/g, 5,582 p/g)

20% from overseas representing >100 countries

Over 150 departments, faculties and schools



World Class Ranking

Times Higher Education Survey 2009 (2008)

- | | |
|-------------------------|-------------------|
| 1. Harvard (1) | 5= Oxford(4) |
| 2. Cambridge (3) | 7. Chicago (8) |
| 3. Yale (2) | 8. Princeton (12) |
| 4. UCL (7) | 9. MIT (9) |
| 5= Imperial College (5) | 10. Caltech (5) |



The Cambridge Phenomenon

- Cambridge provides an excellent environment and community for early stage science and technology based ideas
- University people and ideas are at the core of many new technology ventures
- Over 1,000 innovation based companies
 - >500 in IT and >200 in Life Sciences, the most rapidly expanding sectors
 - Nicknamed ‘Silicon Fen’
 - Cambridge Cluster fourth in Europe for total European institutional investment in 2006. Largest amount of investment per capita in Europe in 2006. (*Library House , Cambridge Cluster Report 2007*)
- University organisations have helped to develop the infrastructure of the cluster
 - Cambridge Science Park (Trinity College)
 - St. John’s Innovation Centre (St. John’s College)
 - Peterhouse Technology Park (Peterhouse)

What makes a technology cluster succeed?

- Good technological infra – structure (ICT, roads, rails, air, stable and good quality water and electricity supplies)
- Financial engineering (close links between business and finance – good quality money)
- Legal infrastructure – lawyers, patent attorneys – responsive and pro-active
- Skill base – the whole spectrum including technical skills and expertise
- Entrepreneurial culture – good role models with an ability to assess, take and manage risk
- Good international links
- Quality of life - weather, scenery, schools, cultural activities

(Adapted from Professor Arnoud de Meyer (Director of the Judge Business School, University of Cambridge), in “Connection,” the Cambridge Network publication , January 2008)

Processes for the dissemination of knowledge from a university

- Natural flow of people and knowledge as a result of teaching and publication of research results – **key output but hard to quantify economic value/impact**
- Ad hoc activities of individuals through advisory work, consultancy and spin-off companies
- Sponsorship of individual research projects
- Increasingly orchestrated activities - often interdisciplinary, regional, national and international with many partners
- Protection and exploitation of both knowledge and intellectual property through consultancy, patenting, licensing and spin - of companies
- Common theme: mutual benefit

The University of Cambridge's approach to technology transfer

“Cambridge Enterprise exists to help University of Cambridge inventors, innovators and entrepreneurs make their ideas and concepts more commercially successful for the benefit of society, the UK economy, the inventors and the University”

Legal context (England and Wales)

- **Patents Act 1977 and Copyright, Designs and Patents Act 1988**
 - **Section 39 of the 1977 Act**
 - In summary - inventions belong to their inventor unless made in the normal course of their duties to an employer , in which case they belong to the employer.
 - **Section 11(2) of the CDPA Act 1998**
 - In summary – the copyright in literary, dramatic, musical or artistic work or a film made by an employee in the course of his employment, rests in the first place with the employer
 - **but what are the normal duties of an academic employee whose employer has charitable (not for profit) status?**

Academic Context

- Teaching
- Research
- Pursuit of scholarship and learning
- Increasingly organised outreach/community/commercial activities – so-called “Third Stream” (alongside the primary ones of teaching and research)
- Making inventions?
 - Research **may** lead to inventions /exploitable copyright so UK universities normally operate under the Patents and CPD Acts
 - Cambridge’s view is that making inventions is **not** expected of researchers as part of their duties and historically left the ownership with the academic
 - Subject always to any external obligations that the University or its researchers may have to its many external sponsors of research

BTG and its role

- 1948: National Research Development Corporation (NRDC) created by the UK government to commercialise innovations resulting from publicly funded research (including that in universities) .
- 1981: NRDC merged with the National Enterprise Board to create British Technology Group Ltd.
- 1985 former monopoly on exploitation of publically funded research in universities and elsewhere abolished
- 1992 privatised
- 1995 floated on the London Stock Exchange as BTG plc.

1987 Policy

- After abolition of monopoly by BTG, universities offered the option to exploit intellectual property arising from Research Council (i.e. publically funded) research
- University of Cambridge, as many others, accepted the option and published its first policy on 18 March 1987
- University responsible for ensuring that inventions derived from Research Council funding were exploited to the benefit of the inventors and the University
- Operational responsibility assigned to Wolfson Cambridge Industrial Unit and IPR to Lynxvale Ltd, the University's wholly owned trading company – precursors of Cambridge Enterprise Ltd
- Revenue share published – net income shared between inventors, their department and the University centrally

2001 Policy

- Perceived need to clarify and strengthen 1987 policy
- Published 31 March 2001
 - Claimed ownership of all IPR generated with External Funding (i.e. Research Councils, charities, EU, UK Government Departments but **excluding** that funded by the Higher Education Funding Council for England (HEFCE) block grant
 - HEFCE grant pays for salaries and buildings, teaching and research
 - Copyright in normal forms of academic work left with individuals
 - all unless otherwise agreed with relevant sponsor
 - Updated revenue sharing agreement

Current IPR Policy Background

- When:
 - Series of Reports and Discussions from 2001 until vote in December 2005
- Why was further change needed?
 - Uniform policy for **all** employees regardless of funding source
 - Transparent and auditable
 - Safeguard individuals' interests (e.g. student/supervisor relationship)
 - Be explicit about rights of academics
 - Recognise obligations to sponsors
 - Try to avoid joint ownership

Recent Policy and Organisational Milestones

Intellectual Property – as of December 2005

- The University has the initial right to apply for patents arising from work of University academics – subject to sponsors' requirements
- Cambridge Enterprise makes initial invention commercial evaluation within 30 days – or longer if mutually agreed
- Copyright in software belongs to academics – unless sponsored research terms state otherwise
- University will not enter a sponsorship agreement without the consent of the academic
- Research arising from sponsored research is governed by the sponsorship agreement which often overrides the default policy
- Students are treated as academics if co-inventors with academics or create inventions under sponsorship
- More favourable distribution for academics

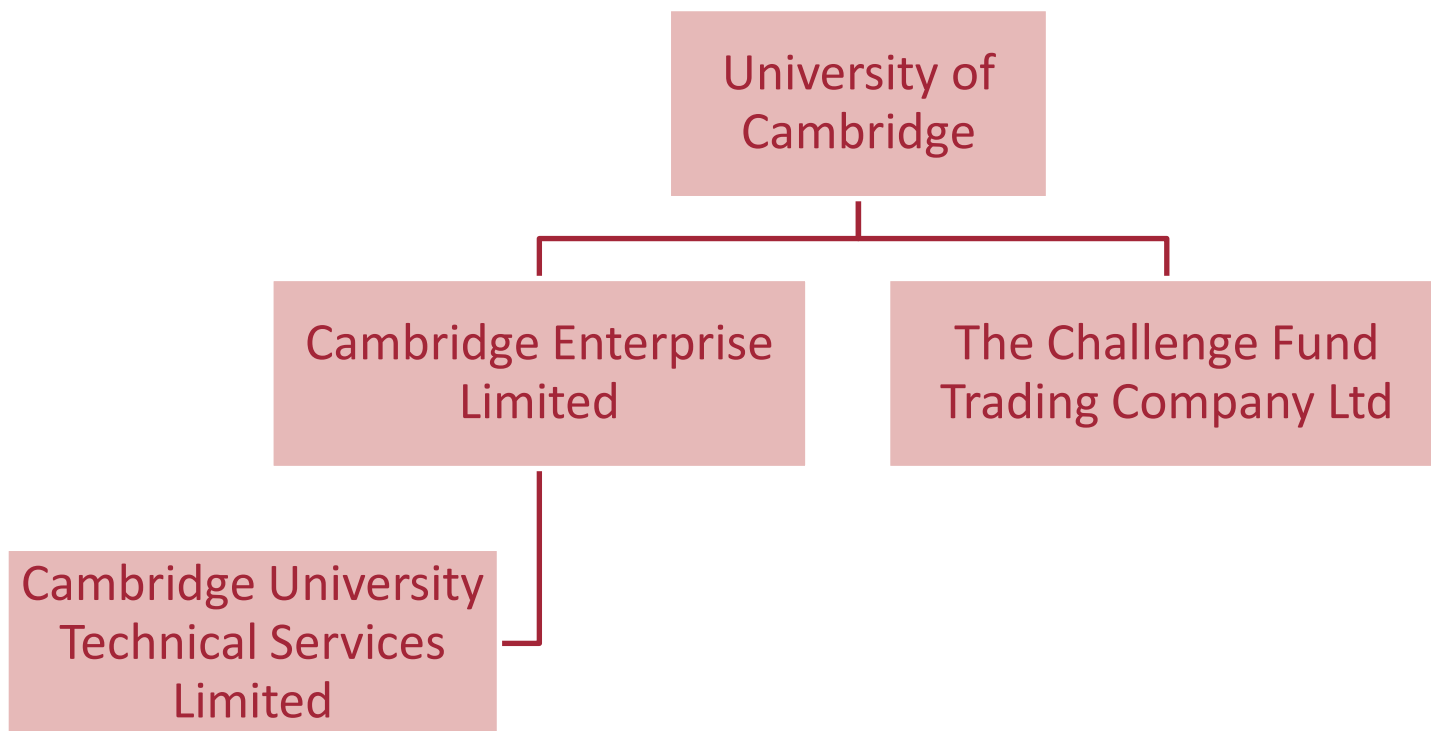
Organisational Structure – as of December 2006

- Cambridge Enterprise restructured as a Limited Company
- The University of Cambridge is the sole shareholder

Cambridge Enterprise Limited Board of Directors

- Fiduciary responsibility to the shareholder(s)
- Board members are appointed by the University to include:
 - Three members external to the University
 - Three members internal to the University including the PVC for Research
 - Three members of Cambridge Enterprise Limited including the Chief Executive and Finance Director
- University Director of Finance is the shareholder's representative and observer
- University's Registry is the Company Secretary
- Chief Executive of Cambridge Enterprise Limited reports to the Board and is a Director
- Interfaces formally with the University through its Finance Committee

Cambridge Enterprise



University Revenue Sharing From Licensing Technology

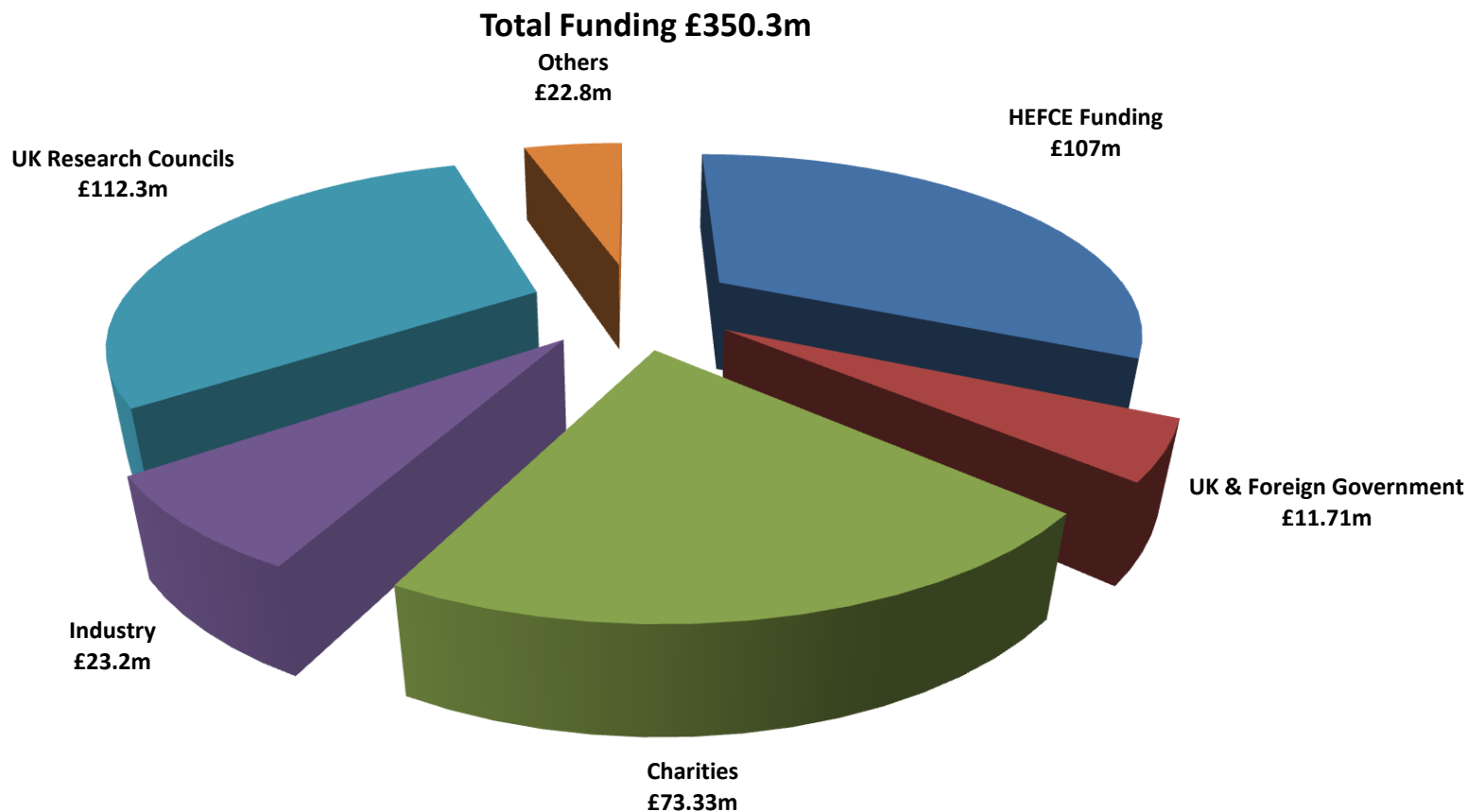
Net Income (opt in)	Inventor(s)	Department(s)	University
First £100,000	90%	5%	5%
Next £100,000	60%	20%	20%
Above £200,000	34%	33%	33%

Net Income (opt out)	Inventor(s)	Department(s)	University
First £50,000	100%	0%	0%
Above £50,000	85%	7.5%	7.5%

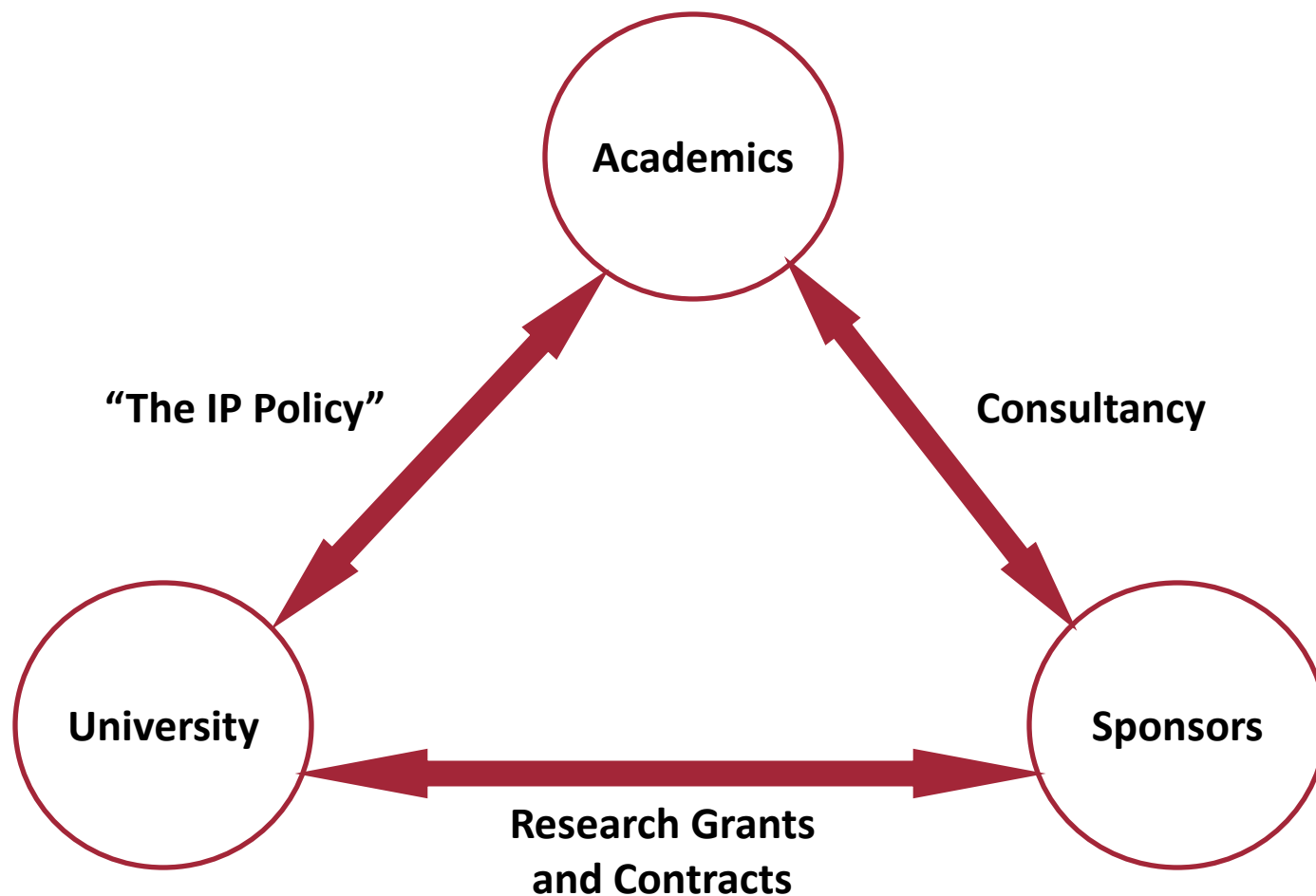
University Policy – updated December 2005

University Research Funding

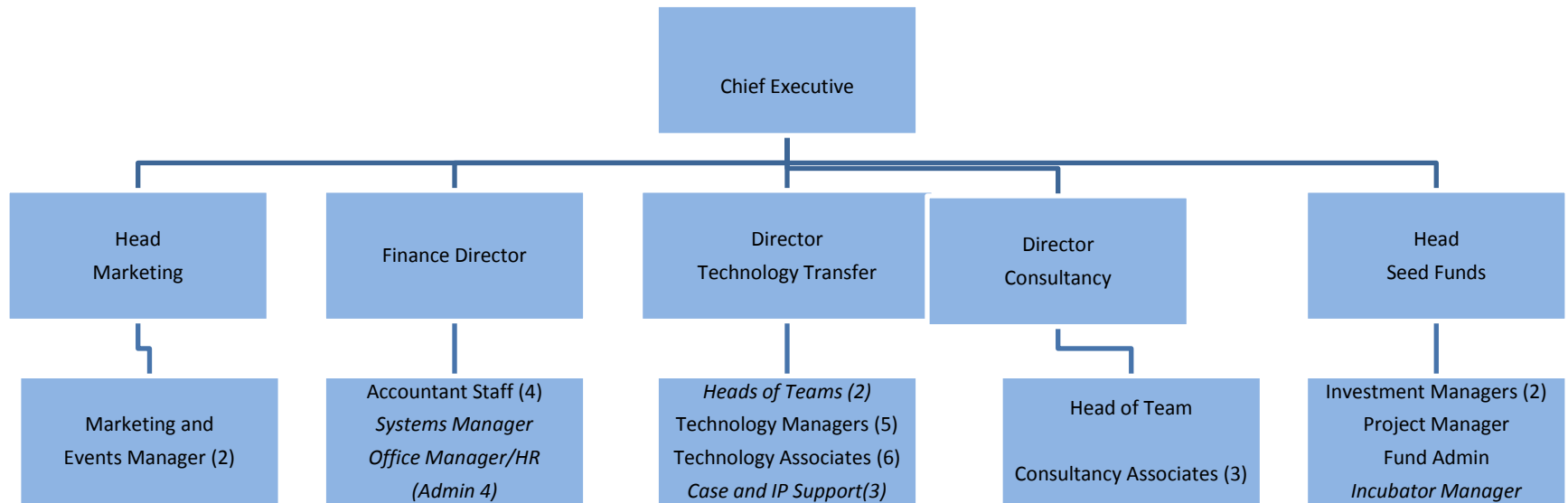
University Research Funding 2007/08



Disposition of IPRs



Cambridge Enterprise Group Organisation Chart

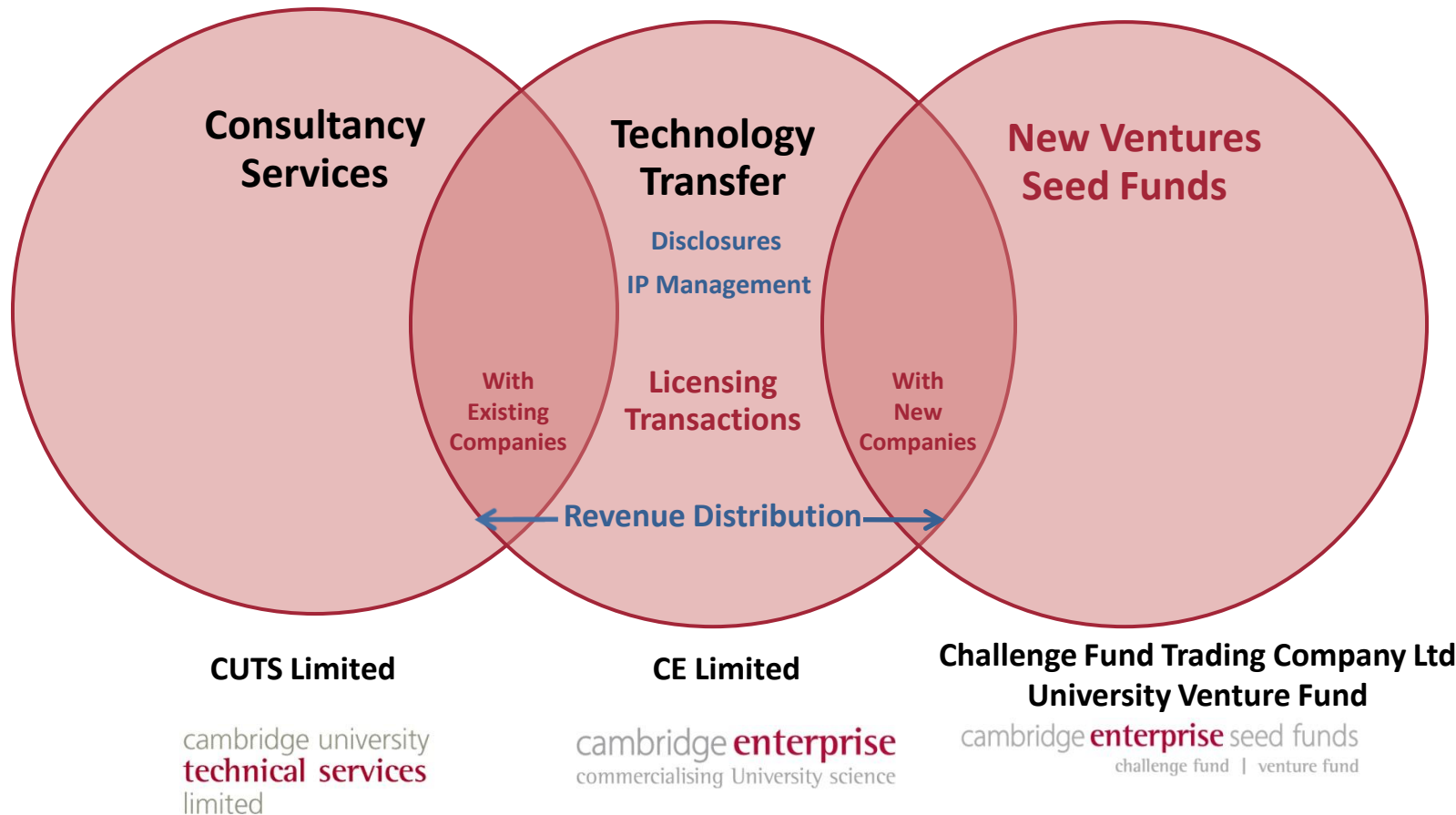


CE Business Units

Finance, Operations and Marketing aligned with and support all three business areas

- Consultancy Services
 - Services to academics consulting to charities, public and private sector organisations (>120 active contracts per year)
- Technology Transfer
 - IPR protection, management and licensing transactions (~460 licences)
- Seed Funds and new ventures
 - New company creation and funding(>70)

Cambridge Enterprise



Goals

- ...to take the most promising ideas forward through IPR licensing, new venture creation and consultancy by:
 - ***building strong relationships with University academics***
 - making ***significant, measurable progress toward financial sustainability*** to drive long term benefits to academics, departments and University
 - being an ***attractive partner for industry and investors*** to take University ideas forward through commercial channels

Cambridge Enterprise Internal Markets

- The primary internal customers are University of Cambridge academics and also include:
 - Researchers and Students
 - Administration (VC, Pro-VC, Registry, Financial Director)
 - Departments and Schools
 - Colleges
 - Units with overlapping interests (Research Office, Communications, Development Office)
 - University Committees

Cambridge Enterprise External Markets

- The primary external customers are buyers of IP or licensees but also include:
 - Companies interested in IP (e.g. BTG, IP Group)
 - Investors interested in University affiliated companies and entrepreneurs
 - Organisations with relationships with the above such as consultancies
 - Professional advisers (fund raisers, banks, law firms, accountants, patent attorneys)
 - Service providers such as incubators
 - Government and other granting agencies

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