



# Danish Parliamentary Visit

26 January 2016

**Dr Tony Raven, Chief Executive,**  
Cambridge Enterprise Limited, University of Cambridge

# The University's Mission

The mission of the University of Cambridge is to contribute to society through the pursuit of education, learning, and research at the highest international levels of excellence.

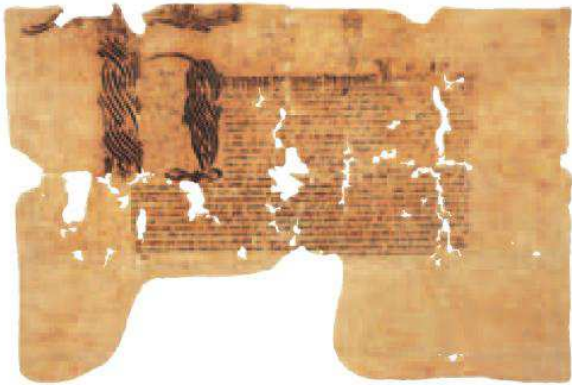
# Cambridge Enterprise's Mission

The objectives of CE Limited are, in order of precedence, to

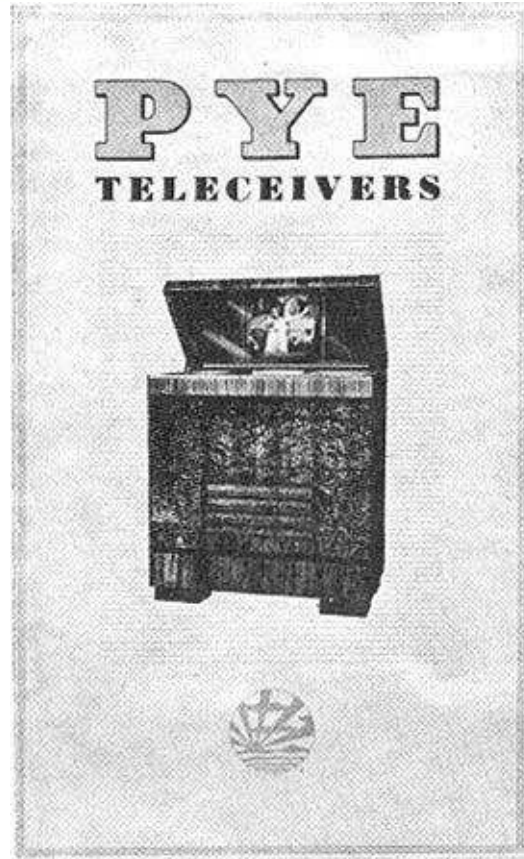
- aid the transfer of knowledge from the University via commercialisation;
- aid staff and students in making their ideas more commercially successful; and
- produce a financial return for inventors, departments and the University.



# Innovation is in the University's DNA



Cambridge University  
Press: 1534

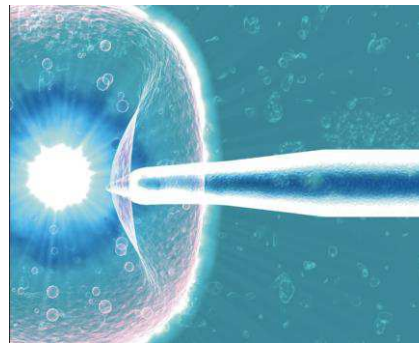
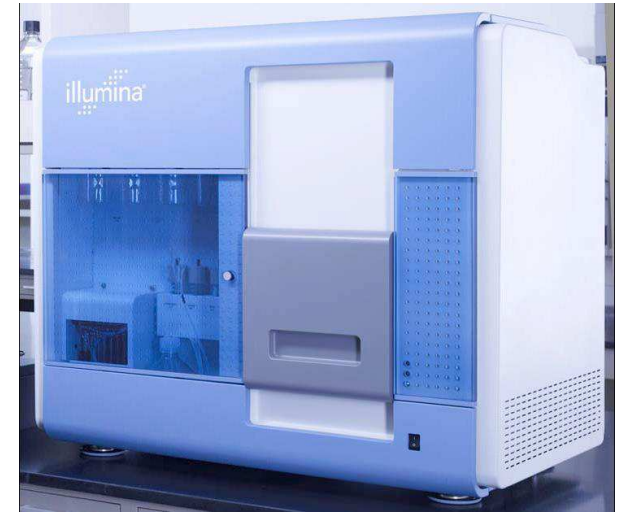
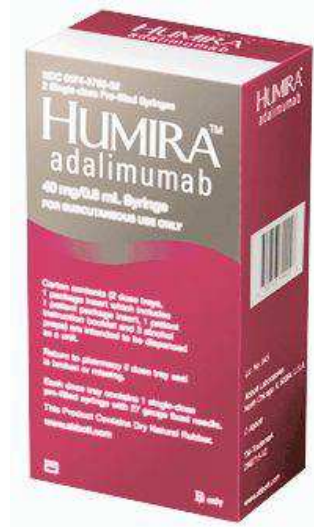


Pye: 1896

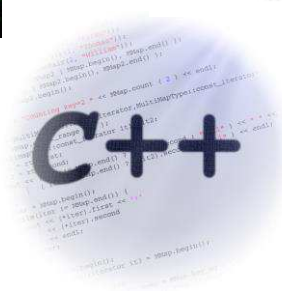
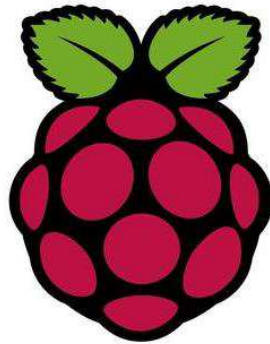
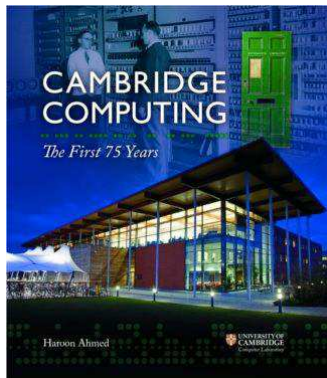
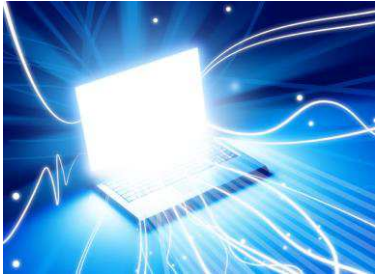


Cambridge  
Instruments: 1881

# Cambridge changing the world of health



# Cambridge changing the World of IT

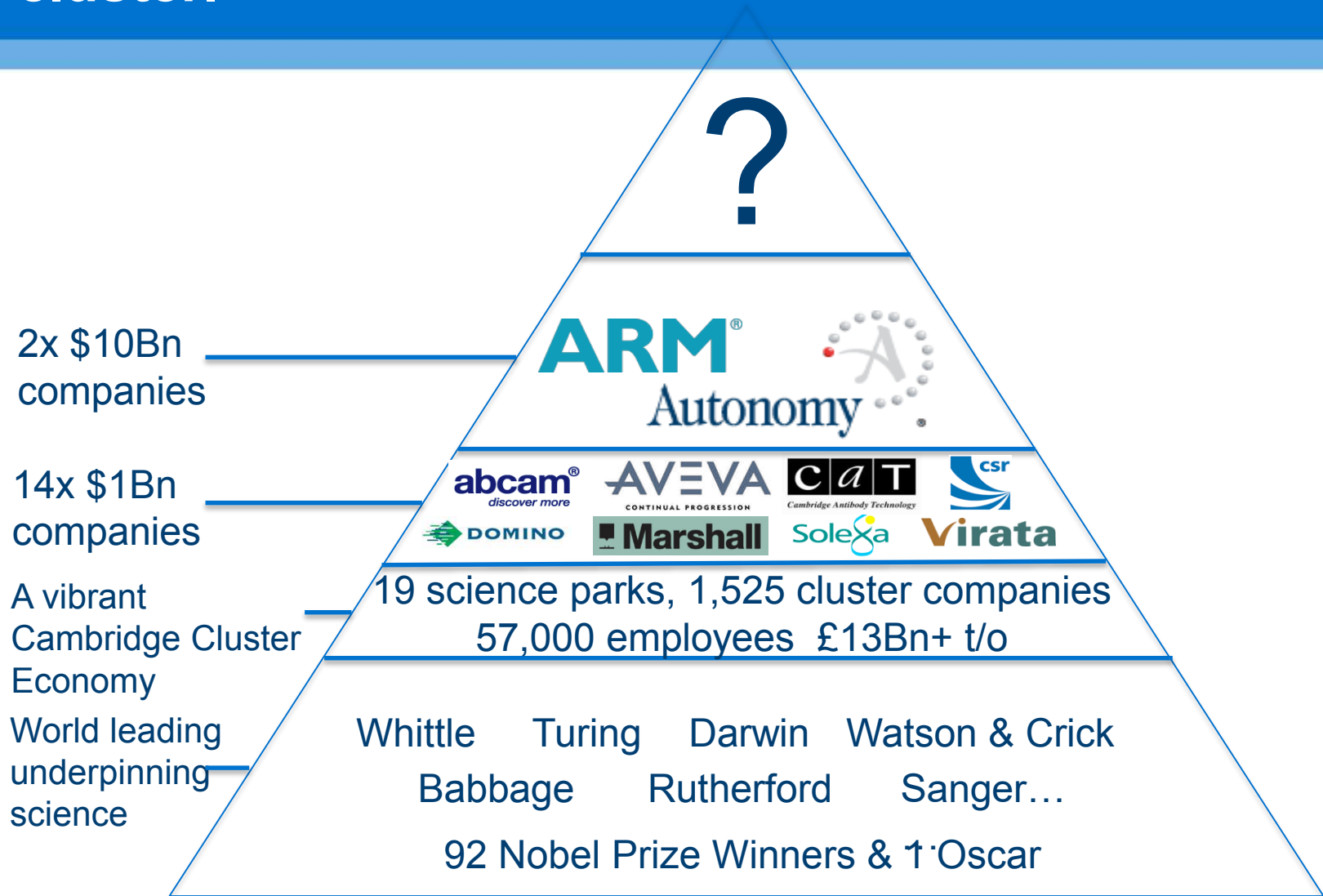


**SOPHOS**

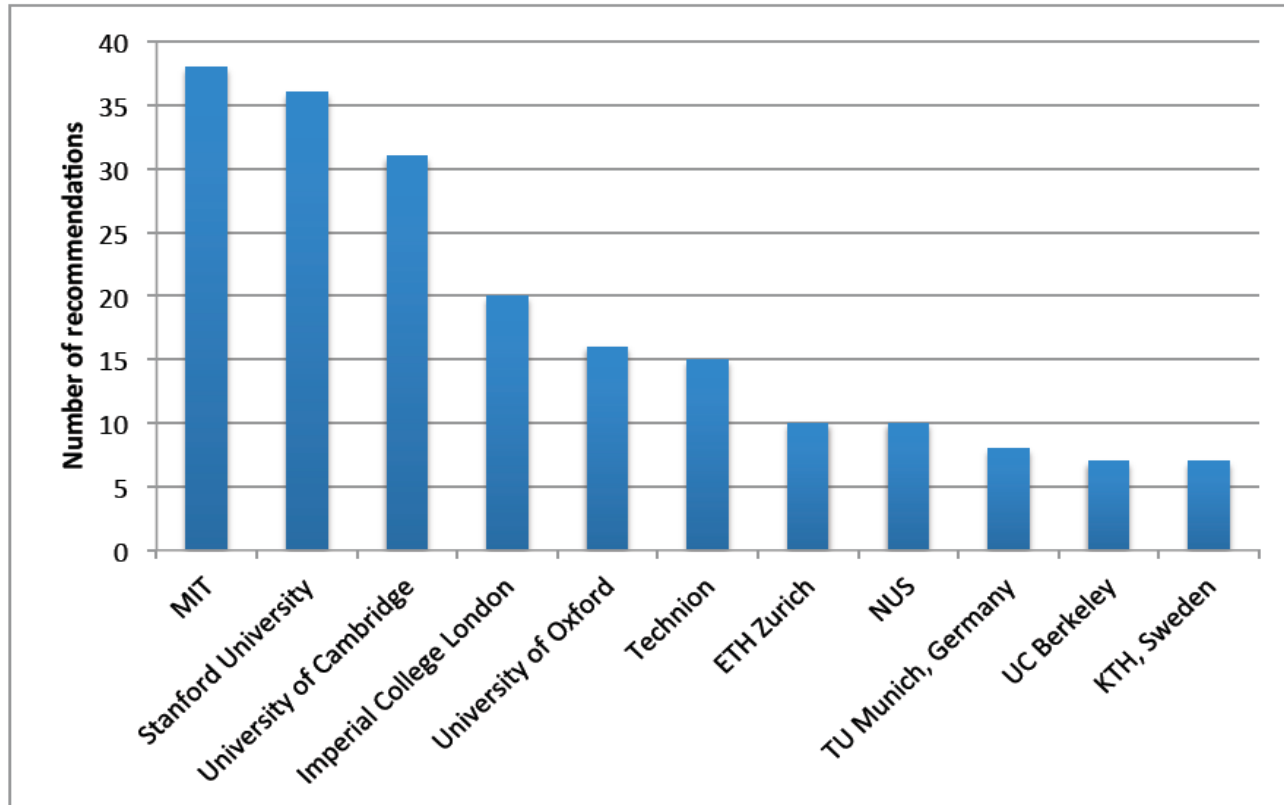




# Leading to Europe's most successful technology cluster.



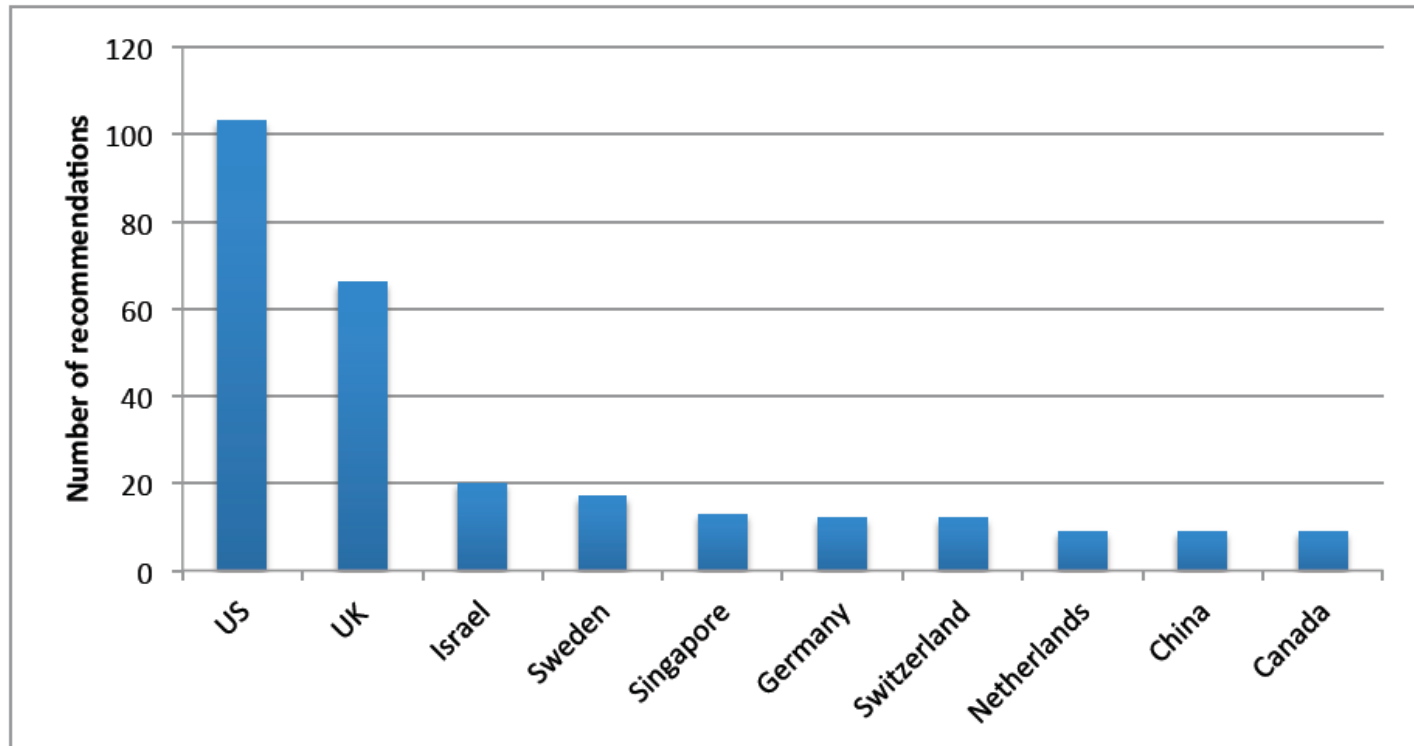
# MIT Survey of Global Expert Opinion



**Figure 4.** Top 10 responses to the question *'which universities would you identify as having created/supported the world's most successful technology innovation ecosystems'*, with the results adjusted for country of residence of the interviewee



# MIT Survey of Global Expert Opinion



**Figure 5.** The most frequently cited countries in response to the question *'which universities would you identify as having created/supported the world's most successful technology innovation ecosystems'*, with the results adjusted for country of residence of the interviewee

# Chancellor of the Exchequer's speech on science in Cambridge, 25 April 2014



*“This support for and application of science is right at the centre of our long term economic plan.*

*You are testament to the world leading science and innovation that we have in Britain.*

*Ideas developed here, commercialised here, and now at the centre of Britain's industrial recovery.*

*It's an extraordinary story – and I know that with the right support from government, you can do even more. So I'm here to tell you: we will continue to back Cambridge.”*

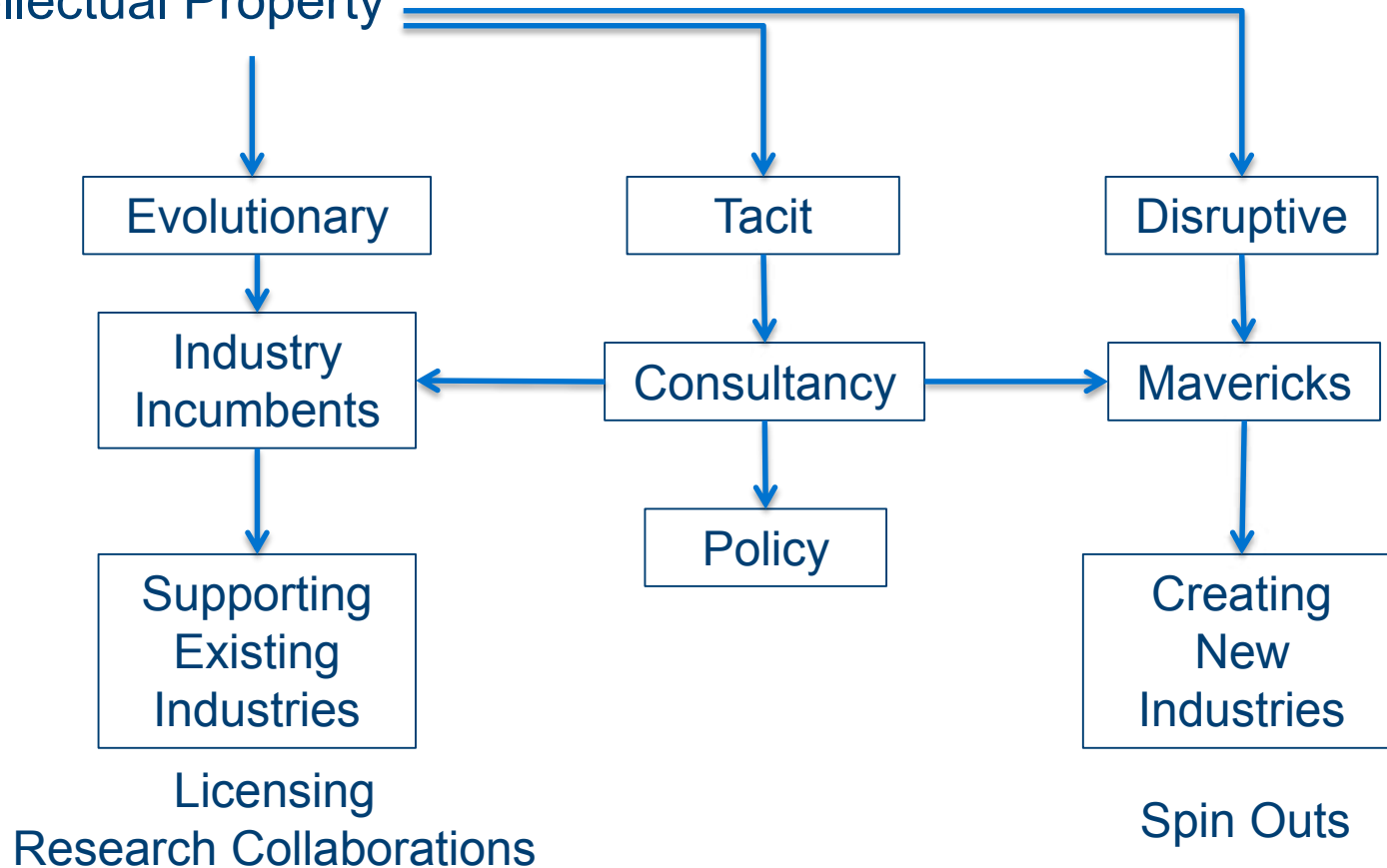
# The Cambridge model

- Recruit the best academics in the world
- Give them the freedom to do what they choose.
- IP belongs to the University unless requested by the academics



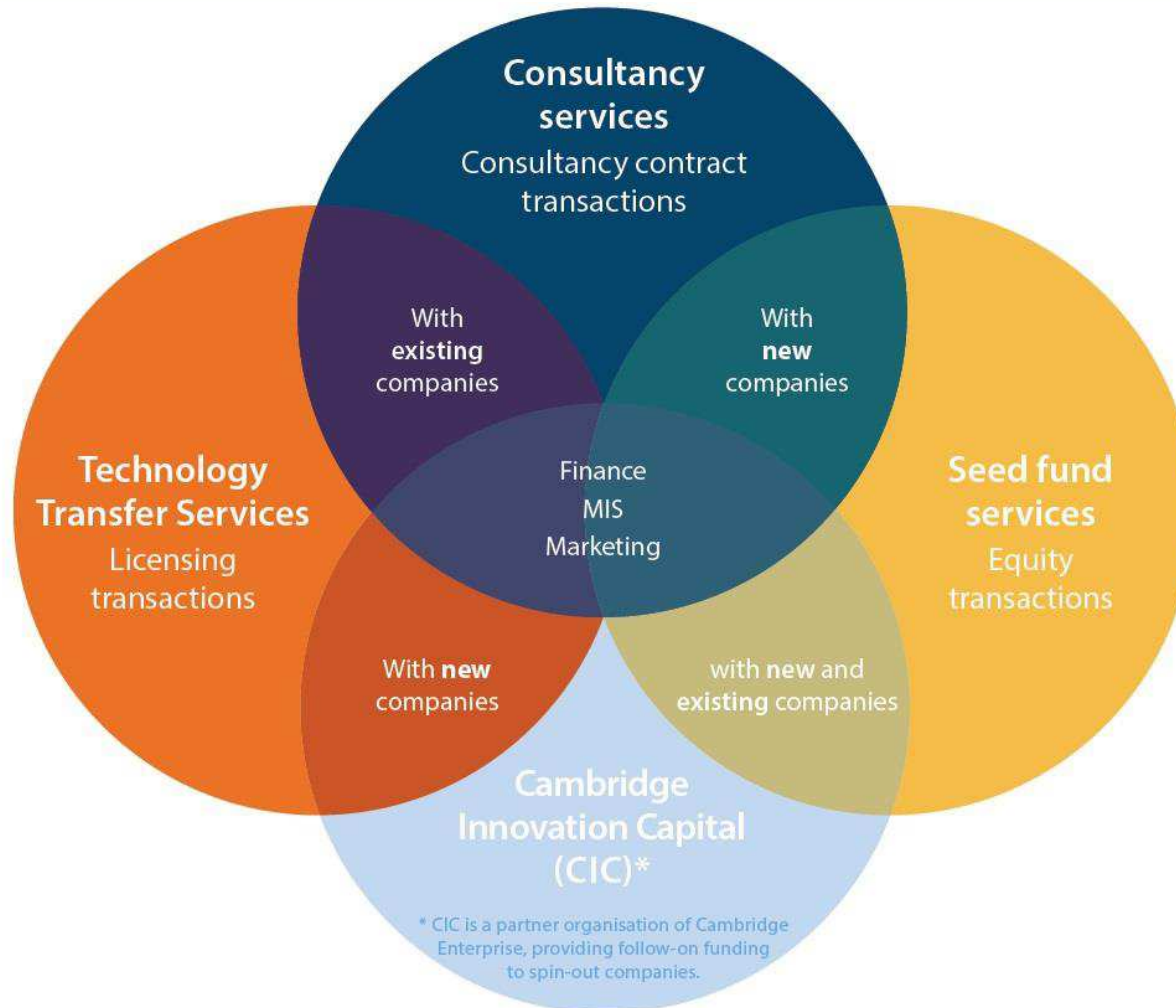
# Intellectual Property

- Intellectual Property

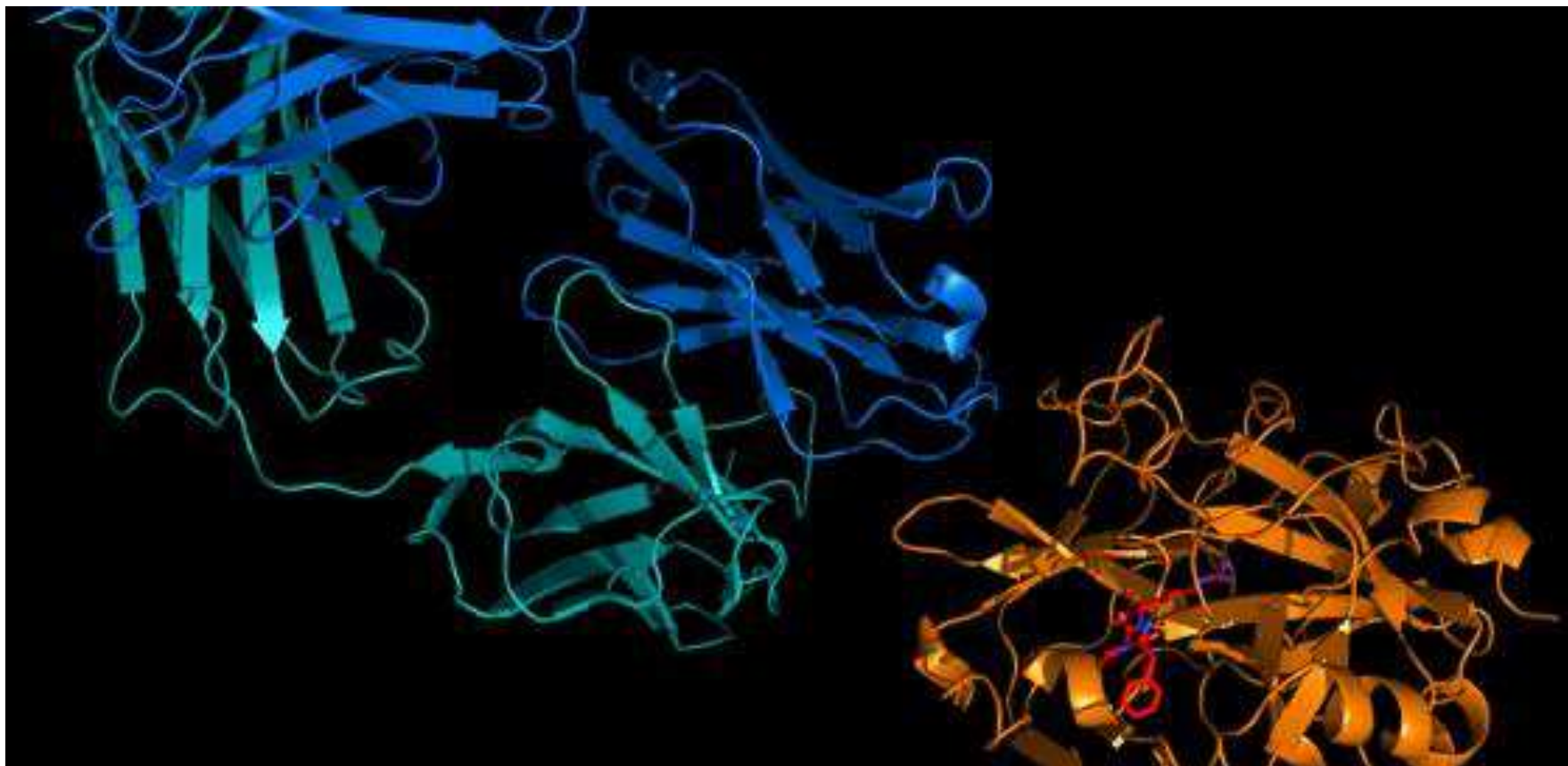




# Cambridge Enterprise



# X01



# Deradicalising religious youth





# Saving the Olympics!





# Some comments on university technology transfer

# Don't copy Cambridge

- Cambridge works in Cambridge
- Other places have:
  - Different cultures
  - Different environments
  - Different legal and regulatory constraints
  - Different resources
  - Different objective

# Our driver is societal benefit

- CE costs ~£2.5m p.a. to run
- *“financial contributions of patent licensing to most university operating budgets are modest at best, and negative for a great many institutions”*<sup>1</sup>
- Only 15% of US university TTOs break-even or better
  - The 15% are generally in a serendipitous big win
  - Stanford OTL is currently wrestling with the end of its recombinant DNA patent royalties which are 60% of their total license income
- But there is a high economic return on investment<sup>2</sup>
  - Average across England for HEIF is 7.3x monetised and 2.4x non-monetised
  - Top six are 22.5x, bottom one is 1.5x

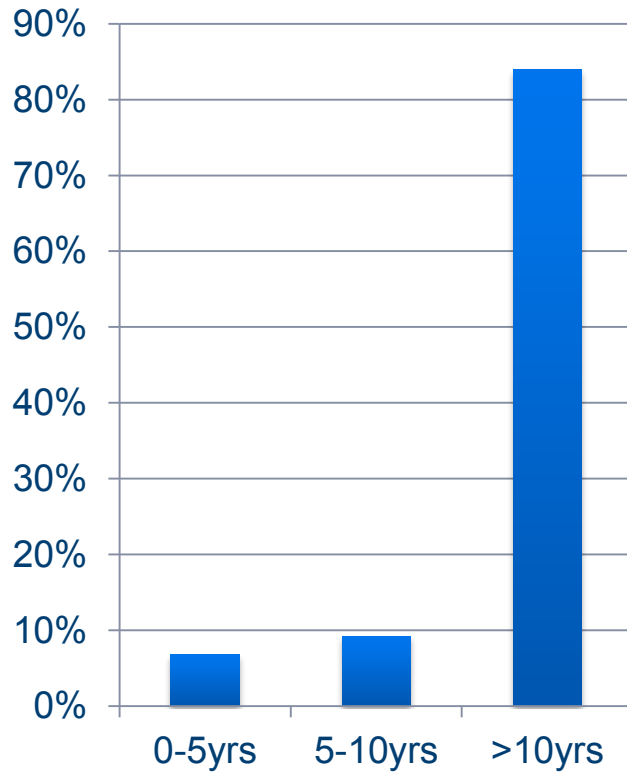
<sup>1</sup>Furthering America’s research enterprise, *US National Academies (2014)*.

<sup>2</sup>HEFCE: Assessing the Economic Impacts of the Higher Education Innovation Fund (2015)

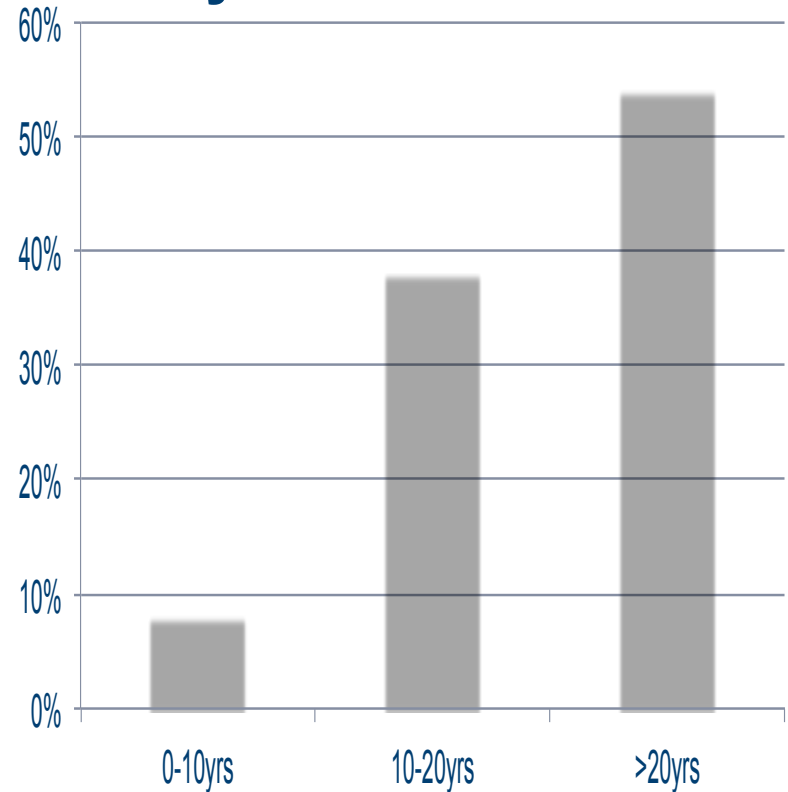
# It takes time.....

## Income vs Age of IP

### Cambridge



### University of California





# The SME question

- There are 5 million SMEs in the UK
- There are 200 thousand academics (25:1)
- The UK universities can probably support 10-20 thousand SMEs
- Therefore >99% are going to be disappointed.
- The question therefore is not how we work with more SMEs but what identifies the small number of SMEs we should be working with
- The Cambridge cluster has over 1,500 high tech SMEs
  - We touch a small number through research
  - We touch a large number through graduate/PG employment and the environment.

# Are Universities difficult to work with?

- Many anecdotes but little evidence.
- Many issues central to a university are not familiar to many companies
  - Charities Act
  - State Aid
  - Freedom to carry on core business of research and teaching
  - Diligence provisions
  - Cannot warrant outcomes of research
- Many companies do not typically have the depth of experience of TTO's – one or two licenses/spin outs p.a. vs 100's
- Lambert (standardised) Agreements
- The activity is complex – many diverse and different drivers.
- In a recent survey of business perceptions of Cambridge, Oxford and Imperial, “difficult to work with” was the least cited characteristic (3% of responses)

# Do we need a TTO?

- Most jobs would still need to be done by someone:
  - Advise academics
  - Identify and protect IP
  - Check freedoms to operate
  - Check contractual constraints
  - Check export control restrictions
  - Actively market the technology (to industry or investors)
  - Select licensee(s)/build business plan and investor syndicate
  - Negotiate license or investment terms
  - Audit licenses
  - Collection and distribution of revenues
  - Supporting translational funding – MRC-Confidence in Concept, Wellcome Seeding Drug Discovery,
  - .....
- Some academics have the necessary experience, most do not
- Many opportunities are too early/too different for industry
- Many opportunities are social rather than financial esp. in AHSS and not going to be supported by industry or investors

Thank you & questions.



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