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# Technology Transfer at The University of Bristol



# Today

- The role of Universities in Tech Transfer
- UK drivers for Tech Transfer
- Bristol and its approach to Tech Transfer
- Tech Transfer support at Bristol – case examples
- Peer group partnership – SETsquared
- Conclusion

# Classical view of Universities' role

- Creation and publication of basic or core knowledge
- Transfer of knowledge through teaching
  - Graduates as knowledge transfer agents
- Commercialisation a threat to core mission
- Global peer group
- Professional bureaucracies
- “... collections of individuals united by a heating system and the need for car parking” (anonymous VC)

# Myths of University Commercialisation

- Universities are a vast untapped source of intellectual property
- Researchers despise the concept of business and wealth generation
- Every time we license a technology we are losing everything
- European Universities are way behind their US counterparts

# The University Response – past

- Reactive & defensive
- Limited skilled staff and resources
- IP leakage – publication drivers
  - Patent everything - we can decide what to do later
- Value and wealth ‘leaking away’
  - Industry are ‘enemies’ to be beaten down
  - Spinout companies are best
- Conservative view of risk and liability
- US knows everything, just follow them

# UK Government Policy Objectives

- Systematic and sustainable change within institutions in how they relate to business,
- More widespread and rapid transfer to businesses of new ideas, products and processes generated within the research base
- The incorporation of teaching of enterprise into the science and engineering curricula
- Contribution to the economic development of the nation.
- Creation of new knowledge based companies

# The University Response – now and future

- Recognition of their role in the knowledge economy
- Market driven licensing
  - Intelligent demand?
- Reduction to Practice/Proof of Concept
  - add value to ‘raw’ IP
- IPR facilitates research collaboration
  - Industry needs security for commercialisation
- Realistic expectations on wealth generation
- Systematic evaluation of knowledge
- Sharing of tech transfer learning

# The University of Bristol

- A top 10 research intensive UK University
- 12000 undergraduates
- 5000 staff
- \$400m turnover pa
- SW Region – 5m people one of 9 English regions
- Bristol – major city in the region
- Vibrant economy – HP, Airbus, Rolls Royce, ICT and media

# Bristol and its approach to Tech Transfer

- Re-organised in 2000 to build an integrated Division within the University
- Research and Enterprise Development
  - Research Strategy
  - Funding Support
  - Contracts management
  - Business Development & project management
  - IP development & management
  - Exploitation – Licensing & Company creation
  - Entrepreneurship Culture & education
  - Incubation

# Tech Transfer Team Services

- IP Support at pre-contract/contract stage
- Awareness of IP and issues to academic community
- Disclosure of invention
- Protection go/no go – based on defined criteria
- Commissioning patent drafting and managing process and costs
- Developing strategy to exploit
- Inventorship and management of revenues

# Tech Transfer Team Services cont.

- Exploitation Support
  - Licensing (market driven strategies)
    - Who, how, what, costs and revenues
  - Pre spinout Company support
  - Proof of Concept Funding (eg EDF, Wellcome, BBSRC/EPSRC, Sulis etc)
  - Enterprise Leaders
  - Represent Univ. in negotiations with founders
  - Spinout portfolio management & support
  - ‘Investment Readiness’
    - Investors, management, Co development, training

# The Enterprise Leader

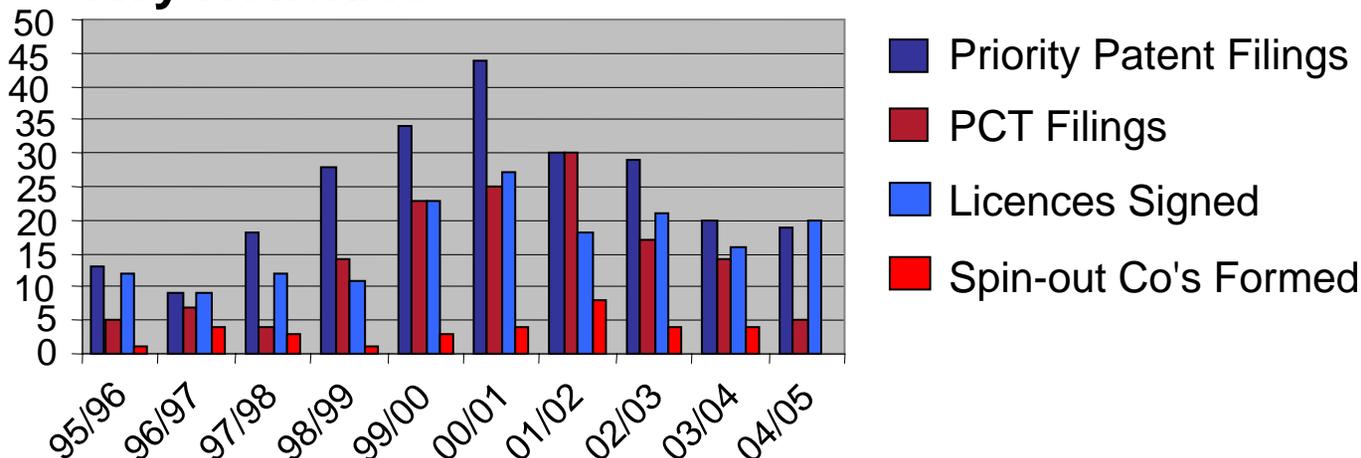
- Championing the culture of entrepreneurship among colleagues and students
- To encourage, recruit and mentor students for the Entrepreneurship Programme
- To maximise the identification and targeting of suitable projects for commercial exploitation
- To work alongside RED to monitor development progress of projects selected for commercialisation
- To build stronger links between scientists and entrepreneurs, finance providers and industrialists who have interests in their particular field.

# Deciding on an Exploitation Route – The ‘Stage Gate Process’

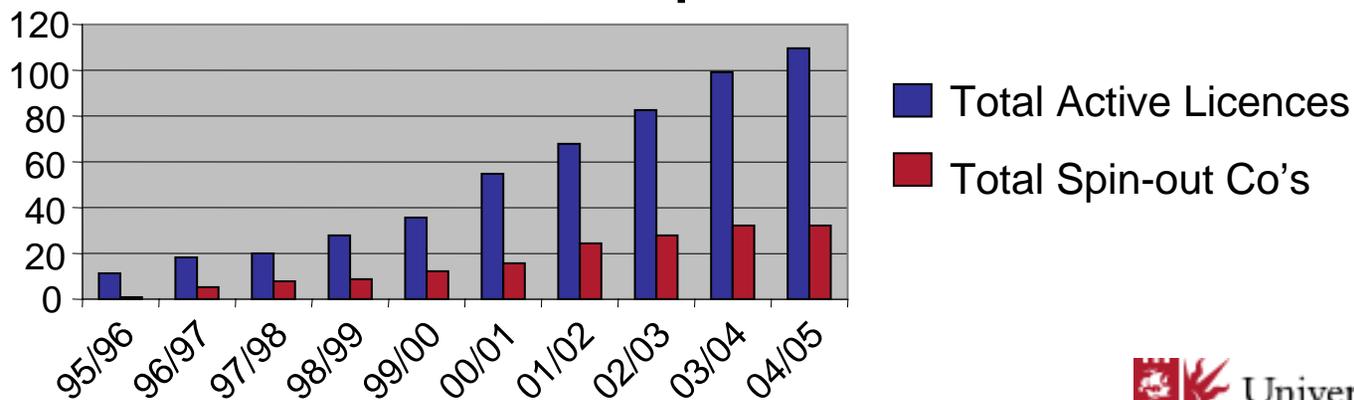
- Peer group review of commercialisation strategy
  - project development milestones (reflect IP strategy)
  - frequently reviewed and refined as technology develops
- Depends on several factors:
  - Type of technology (enabling, therapeutic etc)
  - Development stage of technology
  - Existing market conditions
  - Competition
  - Source of development funding
  - IPR and Patent strategy
  - Inventors

# Bristol IP Indicators – Trends in Activity

## Key Activities



## Total Active Licences/Spin Outs



# Case Examples - Licensing

- Exclusive Licence
  - High Risk
  - Long and expensive development
  - Specific target markete.g. Alzheimers/Pain Therapeutic –ReNeuron
  
- Non-Exclusive Licence
  - Low Risk
  - Quick and cheap development
  - Research toolse.g. VEGF Antibody Production – R&D Systems, Upstate, Abcam

# Case Examples – Company Formation

- Spin Out
  - Platform/enabling technology
  - Contract Services
  - Wide market application
  - Current investment trends
  - Driven by strong team of inventor/founderse.g. Aegis Ltd (Hunter Fleming Ltd)  
ProXara Ltd  
KWS Ltd

# Case Examples - Joint Development

- Provides development funding to inventor research group in return for access to technology
- Ideal for early stage technologies not ready for licence

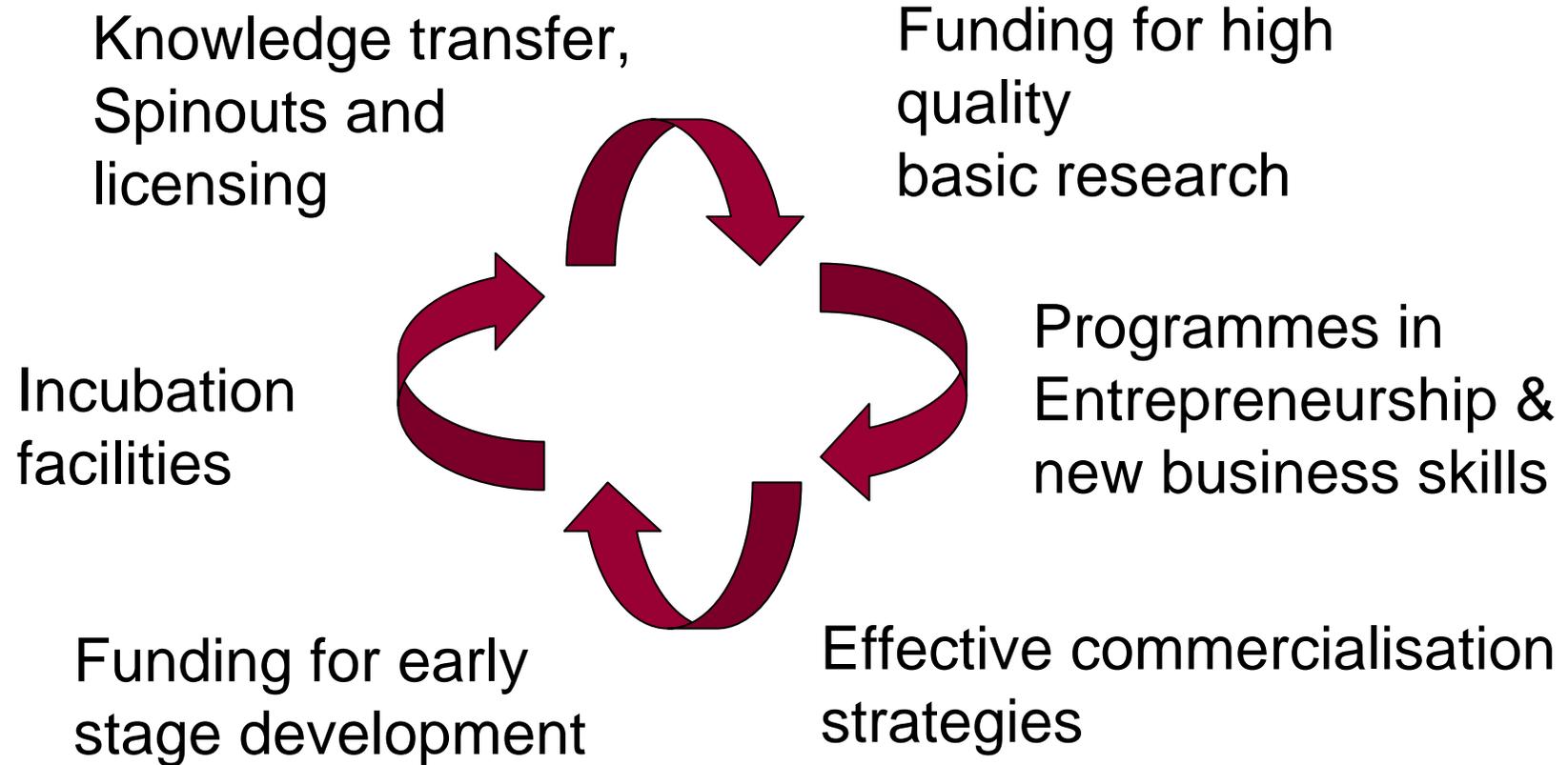
e.g. Novartis (Novel use of existing drug)

SR Pharma (Neuroscience)

Hunter Fleming

GSK (Vaccine)

# The Virtuous Circle of Research and Enterprise



# The SETsquared Partnership – What..?

- Higher Education Innovation Fund (HEIF)
- A Partnership of four leading research universities maximising their social and economic impact by working together
- Encouraging and supporting successful enterprises across southern England

***Transforming university excellence into business success***

# The SETsquared Partnership – Who..?

- A team of over 100 Knowledge Transfer and Entrepreneurship Education Professionals
- Is the largest single programme for academic knowledge transfer in the UK
  - Ideal exchange of best practice, business contacts and networks
- Has a collective research base of over 6,500 researchers and £250m research income
  - equating to 8% of the UK's university research budget

# The SETsquared Partnership – How..?

- Entrepreneurial Education
  - Available to all staff & students
  - 20% students incorporate as part of their studies (more than twice UK average)
- Developing New Business
  - 3 companies achieved IPO, total market cap £170 million
  - Average time to market less than 2 years
- Supporting Existing Business
  - Providing research collaborations, consultancy, networks of business directors and mentors

# At The University of Bristol:-



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