

# Technology Transfer - Translating Research into Economic Benefit

Dr David Secher

University of Cambridge  
Chairman, Unico  
Director, Praxis

# In this talk ...

- Introduce me
- The goal and current challenge
- Overview of UK technology transfer
- Role of Unico and Praxis
- Remaining challenges
- Some lessons learnt

- IP/KT consultant
- 16 years biomedical research in MRC
- Biotechnology/pharma R&D management
- Drug development and clinical trials with Cancer Research UK
- FP6, FP7 Expert
- Research Services - Cambridge University
- N8 Research Partnership
- Co-founder of Praxis
- Chairman of Unico
- 2007 Queen's Award for Enterprise Promotion

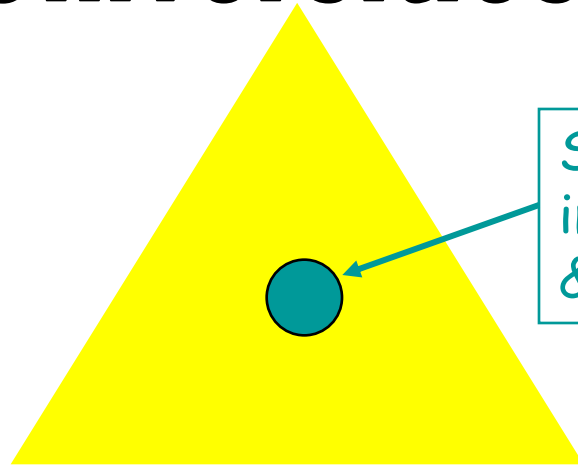
# As consultant advised:

- Companies
- Venture funds
- Individuals
- Government agencies:
  - UK
  - France
  - Portugal
  - India
  - European Commission
  - Hungary
  - Chile

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# "The Golden Triangle"

**Universities**



Societal needs & impact,  
industrial competitiveness  
& future economic edge

**Government**

**Industry**



In today's global economy higher education is increasingly important

Higher education is widely considered to be critical to sustain growth and to adapt to globalisation.

(OECD, *Going for Growth* 2008)



# Economic Trends in UK

- From manufacturing to services
- From low-tech to high-tech
- Driven by ICT
- From skills to intellectual property
- To "The Knowledge Economy"
- Outsourcing and globalisation

# Changing face of Innovation

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- The Past....Large Corporate R&D facilities  
Secretive scientists, low level of collaboration

## **Closed Innovation**

- The Present.....leaner business units  
Increased levels of collaboration  
More outsourcing, more partnerships

## **Open Innovation**

# Three reports

UK Government policy shaped by three reports:

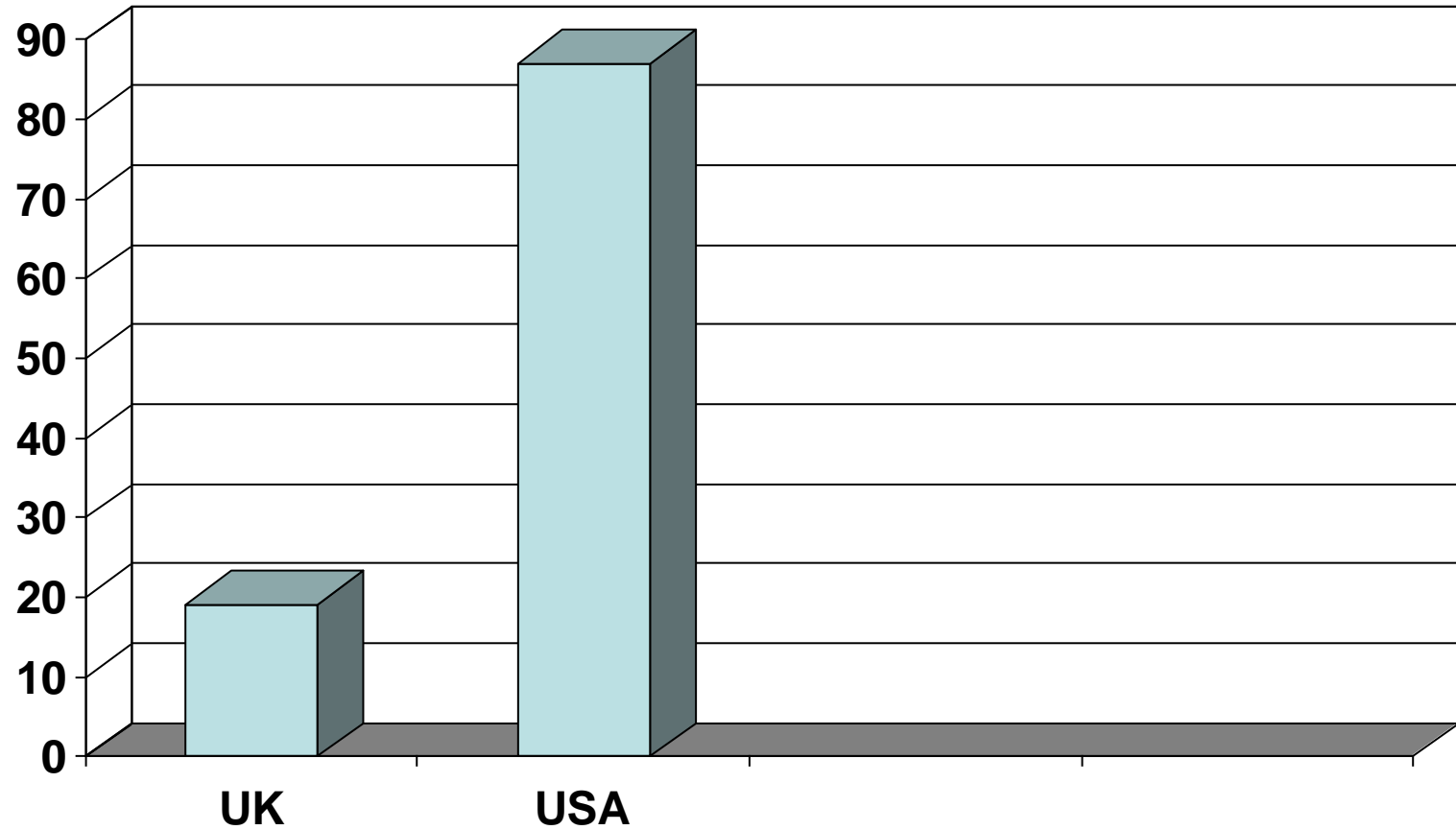
- Lambert 2003
- Sainsbury 2007
- Innovation Nation 2008
- (Wellings 2008)



# Technology Transfer in Universities

- US 1980 Bayh-Dole Act
- UK 2000 Higher Education Innovation Fund

# Research expenditure (\$m) per spinout company



Source AUTM, Unico

# UK University Income (2006-07)

	£m
Research Income	4500
Consultancy	290
Facilities	90
Regeneration	265
IP exploitation	45
Spinouts more than 3 years old	740

Source: HEBCI Survey

# Challenges for UK technology transfer

- Shortage of skills
- Shortage of people with industry and academic experience
- Was "Revenue" now "Economic Impact"
- University strategy not clear
- Academic salaries don't compete
- Small offices
- Larger, mixed funding research projects
- Globalisation

# Industry and Academic Researcher

## Industry

- Driven by external needs
- Clear goals with shareholder commitments
- Commercial confidentiality

## Academic

- Self directed
- Next step defined by what was learned yesterday
- Career measured by publications

“Academics never deliver”

“Industry is out to cheat us”

These are exaggerated caricatures  
but they contain an element of truth!



# Scientist or Businessman??



# Intermediaries

- Must have a profound understanding of both cultures
- Good intermediaries have PhDs in Science and experience in the commercial world
- It is possible without intermediaries but they are helpful
  - at least at the start of an academic/commercial relationship

# Why important?

- Speak the "language"
- Credibility with business and entrepreneurs
- "Interpret" between two communities
- Add value to academic offering
- Catalyse cultural change
- NOT "get in the way"
- "Technology push" or "market pull"?

The logo for Unico features a stylized arch above the company name. The arch is composed of two segments: a dark blue segment on the left and a red segment on the right. Below the arch, the word "UNICO" is written in a bold, sans-serif font. The letters "U", "N", and "I" are dark blue, while the letters "C" and "O" are red. The "I" is a thin vertical bar that serves as a transition between the blue and red colors.

UNICO

# Unico Activities

- 100 universities, 160 members total
- Conferences - networking and sharing best practice
- Commercialisation survey
- Salary survey
- Represent sector views to Government
- Global alliances and co-operation (e.g. career development)

[www.unico.org.uk](http://www.unico.org.uk)



**PRAXIS**

**Technology Transfer Training**

# Praxis

- 2002 Co-founded with Lita Nelsen MBE
- 2007 Not-for-profit company
- UK market leader
- >2000 delegates
- 1-3 day courses
- Taught by practitioners

*[www.praxiscourses.org.uk](http://www.praxiscourses.org.uk)*

# Praxis courses include:

- Fundamentals of technology transfer
- Building spinout companies
- Research contracts
- Advanced licensing
- Managing consultancy in a research lab. or university
- Business development
- Negotiation
- .....

[www.praxiscourses.org.uk](http://www.praxiscourses.org.uk)



# More Challenges for technology transfer

- Was "Revenue" now "Economic Impact"
- University strategy not clear
- Academic salaries don't compete
- Small offices
- Larger, mixed funding research projects
- Globalisation
- Metrics for success not agreed
- Culture change takes time!

# To build strong bridges ...

1. Be persistent and patient
2. Set realistic budgets and targets
3. Have high aspirations, but manage expectations. Identify university focus and strengths
4. Think global, act local. Form global alliances and networks
5. Hire good people with business experience

## To build strong bridges ...

6. Get government support and university buy-in. Incorporate TT into university strategy.
7. *Prioritise training and networking*
8. *Work with academics*
9. *Measure social and economic impact*
10. ???

# Conclusion

- In addition to teaching and research Universities are a potential source of:
  - Commercial ideas
  - Economic development
  - Personal wealth creation
- To realise these benefits needs an appreciation of multiple cultures and a functional interface

# Building bridges



# Contact details:

Dr David Secher  
University of Cambridge

Tel: +44-1223-332457

*dss15@cam.ac.uk*

*or*

*david.secher@cai.cam.ac.uk*