



**THAILAND-EUROPEAN UNION  
Policy Dialogues Support Facility**

# **Applied research and knowledge transfer: engaging with society, industry and business**

Tom Barnes

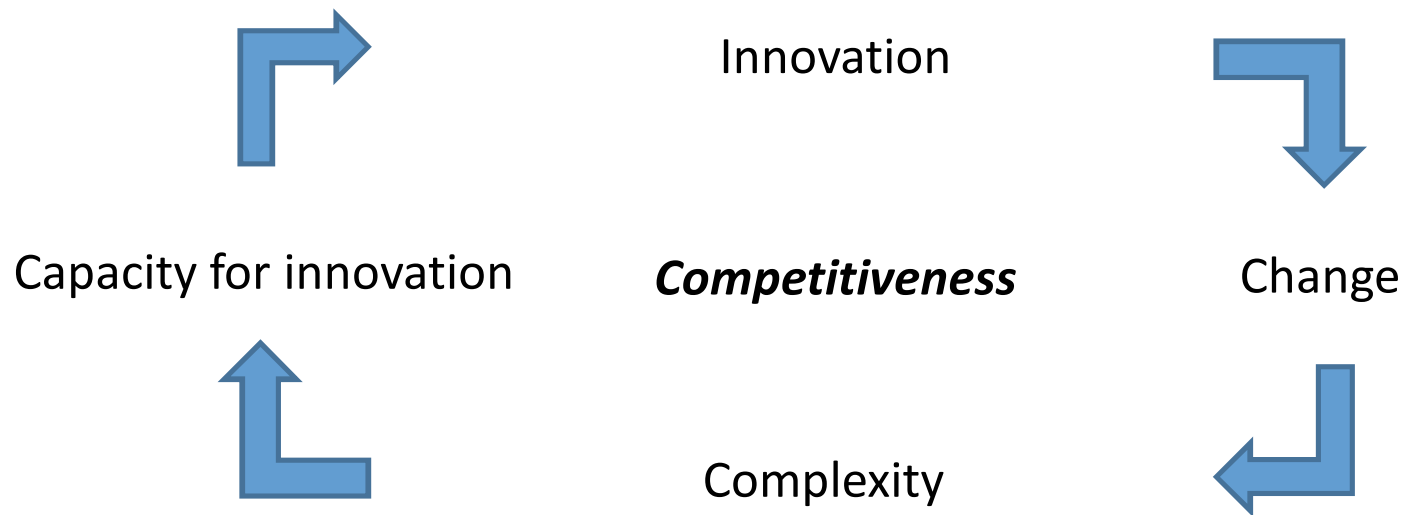
# Engaging with society, industry and business

## Outline

- The Innovation Ecosystem, the changing university role
- The relevance of engagement to the role of Universities
  - Creators of Reputation, Questioners of conventional wisdom
  - Drivers of Innovation
  - Translators of research outcomes
  - Creators of a higher skills base within society
  - Creators of 'Place'
- Barriers to engagement
- Some policy landscapes for university engagement
- Conclusions
- Questions

# Engaging with society, industry and business

## The Cycle of Change:



## Required for participation in the competition:

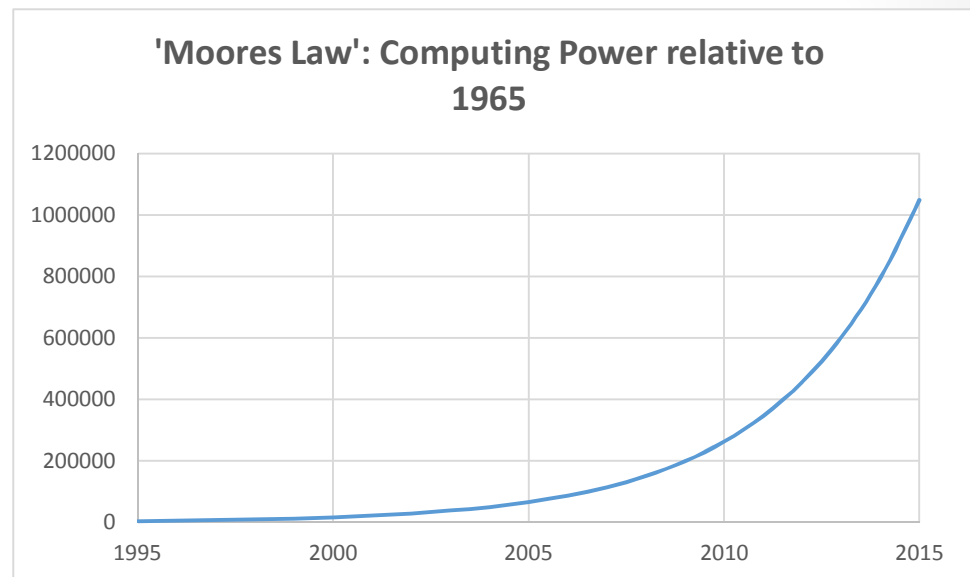
Development of innovative capacity based on new knowledge and skills

# Engaging with society, industry and business

## Moore's Law:

The number of components (a rough proxy for computing power) that can be placed in a computer chip doubles roughly every year

Observed and described in 1965 by Gordon E. Moore (Co Founder of Intel). Held true (with some adjustment of the doubling time) for several decades.



# Engaging with society, industry and business

## University Research



results must be ...



... Relevant

... Translated



... to benefit society



# Engaging with society, industry and business

University Teaching



Academic Education  
Relevant Skills  
Employable Graduates  
Contributing Citizens



# Engaging with society, industry and business

## The key role of Universities in the development of society:

- The generation of knowledge
- The training of a skilled labour force
- The selection and training of leaders
- The expression of ideological debate

(Castells, 2001)

... in the context of the society they serve

# Engaging with society, industry and business

## Creators of Reputation

THE International University Rankings

Academic Ranking of World University  
(Shanghai Jiao Tong)

QS World University Rankings

Etc. etc. ...



EUROPEAN COMMISSION

PRESS RELEASE

Brussels, 13 May 2014

### **New international university ranking: Commission welcomes launch of U-Multirank**

A new global university ranking, set up with €2 million in funding from the European Union, is launched today. **U-Multirank**, which assesses the performance of more than 850 higher education institutions worldwide, breaks new ground by producing multi-dimensional listings rating universities on a much wider range of factors than existing international rankings. The idea is to avoid simplistic league tables ...



# Engaging with society, industry and business

## Questioners of conventional wisdom

Academic Freedom, Freedom of enquiry, ...



# Engaging with society, industry and business

## Drivers of Innovation

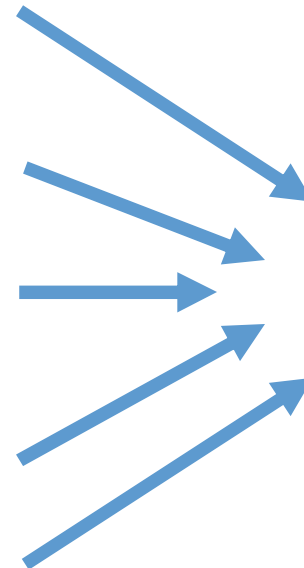
Skills

New Knowledge

Questioning of the conventional

New ways of thinking

New Leaders

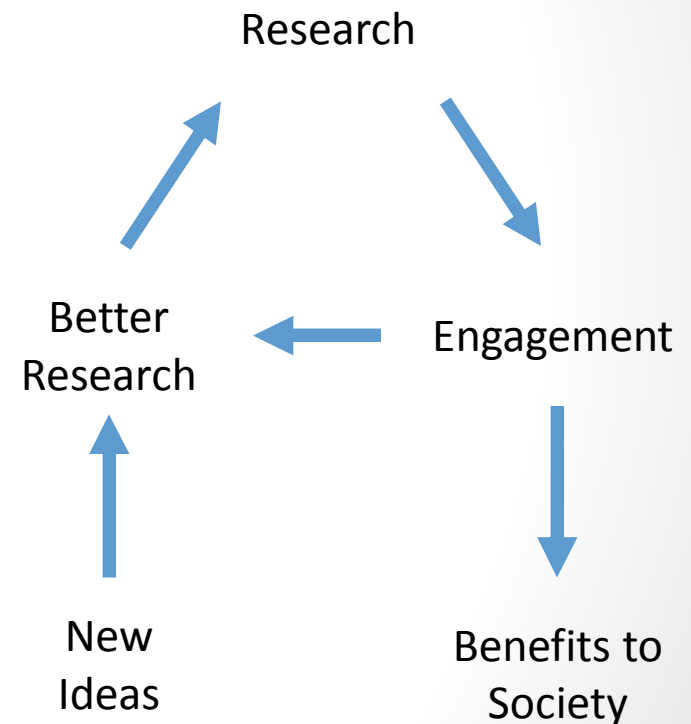


**Capacity  
For  
Innovation**

# Engaging with society, industry and business

## Producers of Research

- Publication alone no longer sufficient
- The rising importance of 'Impact'
- Researcher engagement with the community key to realising the benefits
- Community engagement key to ensuring research is relevant



# Engaging with society, industry and business

## Creators of a Higher Skills Base

- An academic education alone is no longer sufficient
- Students expect more
- Business and government expect more
- Economic competitiveness depends crucially on higher skills
- Including 'soft skills' – the employability agenda
- Also the creation of the next generation of leaders for society
- Political, economic, cultural
- A key contributor to future success and sustainability

# Engaging with society, industry and business

## Creators of 'Place'

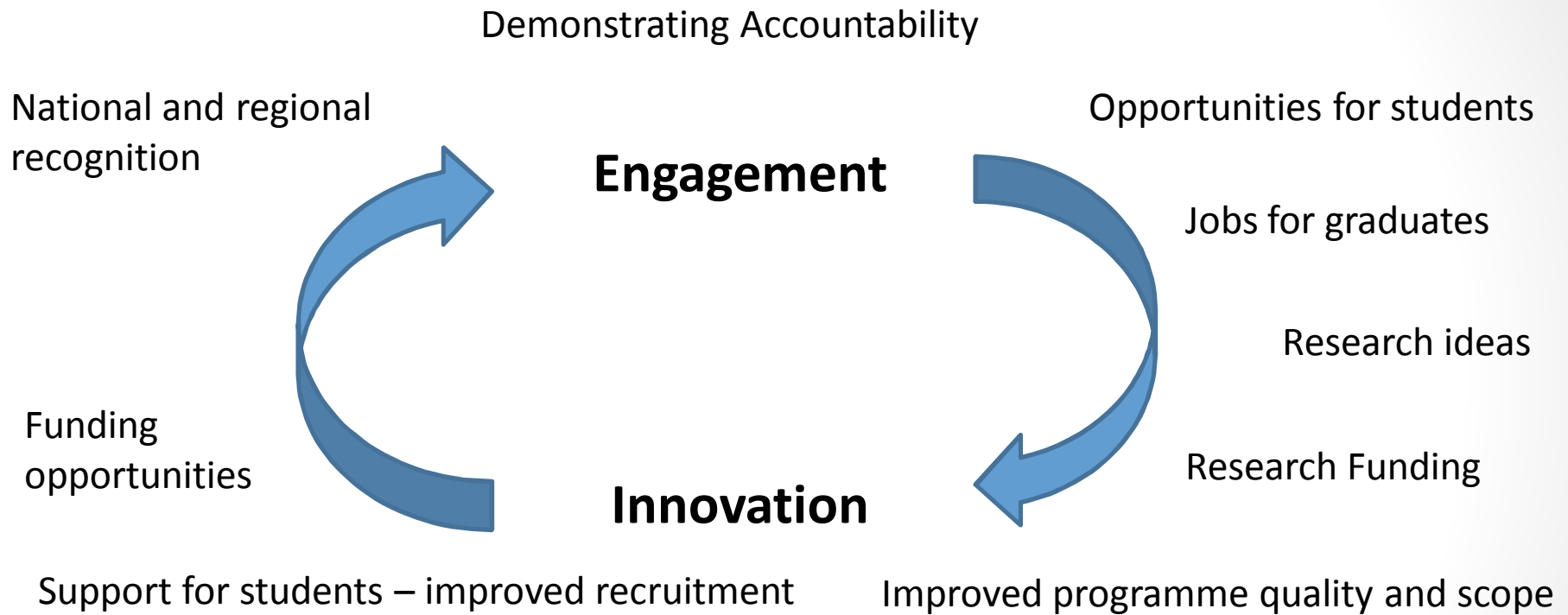
Society's perception of itself – common intrinsic cultural threads running through society at many levels. An understanding of self, environment, and context – physical, historical, and cultural.

## In developing place, universities have a role in:

- Building Civil Institutions
- Developing and promulgating Cultural Values
- Producing Social Elites
- Defining society's perception of itself, and it's understanding of self and environment

**Engagement is Key!!**

# Engaging with society, industry and business



**A virtuous circle with spin-off benefits!**

# Engaging with society, industry and business

## The 'Traditional' University

An academic role for it's own sake

Justifiable in – and of - itself



*Change ...*

## The 'Modern' University

A key driver of development, innovation, and competitiveness

Engaged

Providing a 'return' to society



# Engaging with society, industry and business

## Drivers for engagement

- Strong historical links to external stakeholders, the region, the city, local government and business organisations
- The employability agenda
- New types of programmes – eg. Access arrangements etc.
- Economic influence
- Government policy which promotes links with industry
- Regional innovation initiatives – particularly those promoting tech transfer
- Policies which require university involvement in order to gain government assistance



# Engaging with society, industry and business

## Barriers to Engagement

- Weak national and regional development strategy which does not recognise the benefits of university engagement with society
- Weak employment cultures which fail to promote loyalty to the institution – a poor sense of being part of the institution by staff
- Reward and promotion systems which ignore outreach work or translation of research results
- Anxiety that diversification of university operations causes a decline in standards
- Rewarding only of research excellence with impact ignored. Research reward schemes that stimulate game-playing rather than the undertaking of relevant research from which results are translated outside the institutions
- Intellectual property issues

# Engaging with society, industry and business

## Initiatives – UK

### HEFCE Definition of Engagement:

*“bringing together Higher Education specialists and non-specialists to develop new channels of communication and mutual understanding. The 'public' includes individuals and groups who do not currently have a formal relationship with an HEI through teaching, research or knowledge transfer.”*

### The National Coordinating Centre for Public Engagement established in 2008 to:

*“create a culture within UK Higher Education where Public Engagement is formalised and embedded as a valued and recognised activity for staff at all levels, and for students.”*

# Engaging with society, industry and business

## Initiatives – UK

Introduction of 'Impact' measure into the assessment of research:

Impact: “an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia”

Measured by Panel Assessment of:

- Impact Statements
- Impact Case Studies

Impact measure weighted by 20% in the research assessment funding calculation

# Engaging with society, industry and business

## Initiatives – UK

### The Higher Education Innovation Fund (HEIF)

Distribution of 150M to UK universities to support third-stream activities on the basis of:

- Contract research income
- Consultancy income
- Income from use of facilities and equipment
- Non-credit-bearing continuing professional development courses
- Regeneration income
- Intellectual property income

# Engaging with society, industry and business

## Initiatives – Germany

- Amendments to the Federal Framework Act, the Hochschulrahmengesetz (HRG), from 1998 onwards aimed at increasing competitiveness deregulation and incentives and funding initiatives linked to performance.
- The introduction of 'Goal Agreements' to stimulate strategic engagement by universities with their regions.
- The ResearchCampus (Forschungs Campus) programme

# Engaging with society, industry and business

## Initiatives – Germany

### ResearchCampus (Forschungs Campus) Programme

- Initiated by the German Federal Ministry of Education and Research in 2012
- Centrally-funded programme which having significant effect on the regional engagement activities of German universities
- Nationally driven but makes use of initiatives implemented at a regional or sub-regional level
- creates long term, strategic, public-private partnerships between universities and industry which are embedded in and intrinsically identified with a particular region of the country
- 1 – 2 million Euros per annum per ResearchCampus

# Engaging with society, industry and business

German ResearchCampus Initiatives	
Project	University
ARENA2036 – Active Research Environment for the Next Generation of Automobiles, Stuttgart	University of Stuttgart
Digital Photonic Production, Aachen	RWTH Aachen
Future Electric Grids, Aachen	RWTH Aachen
EUREF Forschungscampus: Sustainable Development of Energy and Mobility by Coupling Intelligent Grids and Electromobility – “Mobility2Grid”, Berlin	Technische Universität Berlin
InfectoGnostics, Jena	Friedrich Schiller University Jena
Mannheim Molecular Intervention Environment (M2OLIE), Mannheim	Medical Research Center, Heidelberg University
Mathematical Optimization and Data Analysis Laboratory – MODAL AG, Berlin	Zuse Institute Berlin
Open Hybrid LabFactory, Wolfsburg	Technische Universität Braunschweig
STIMULATE – Solution Centre for Image Guided Local Therapies, Magdeburg	Otto von Guericke University of Magdeburg

# Engaging with society, industry and business

## Conclusions

- The role of the university has changed – and will change further and more quickly in the future.
- Academic imperatives alone are no longer enough
- Economic, social, and political imperatives are powerful drivers of the engagement agenda for universities
- Managed carefully, the university engagement agenda brings great benefits at all levels: National, Regional, and Local