

# Encouraging Innovation: The Interface Between Academia and Industry

Facilitating Innovation  
Through Collaboration

**Innovate UK**  
Knowledge Transfer Network

[ktn-uk.org](http://ktn-uk.org) @KTNUK



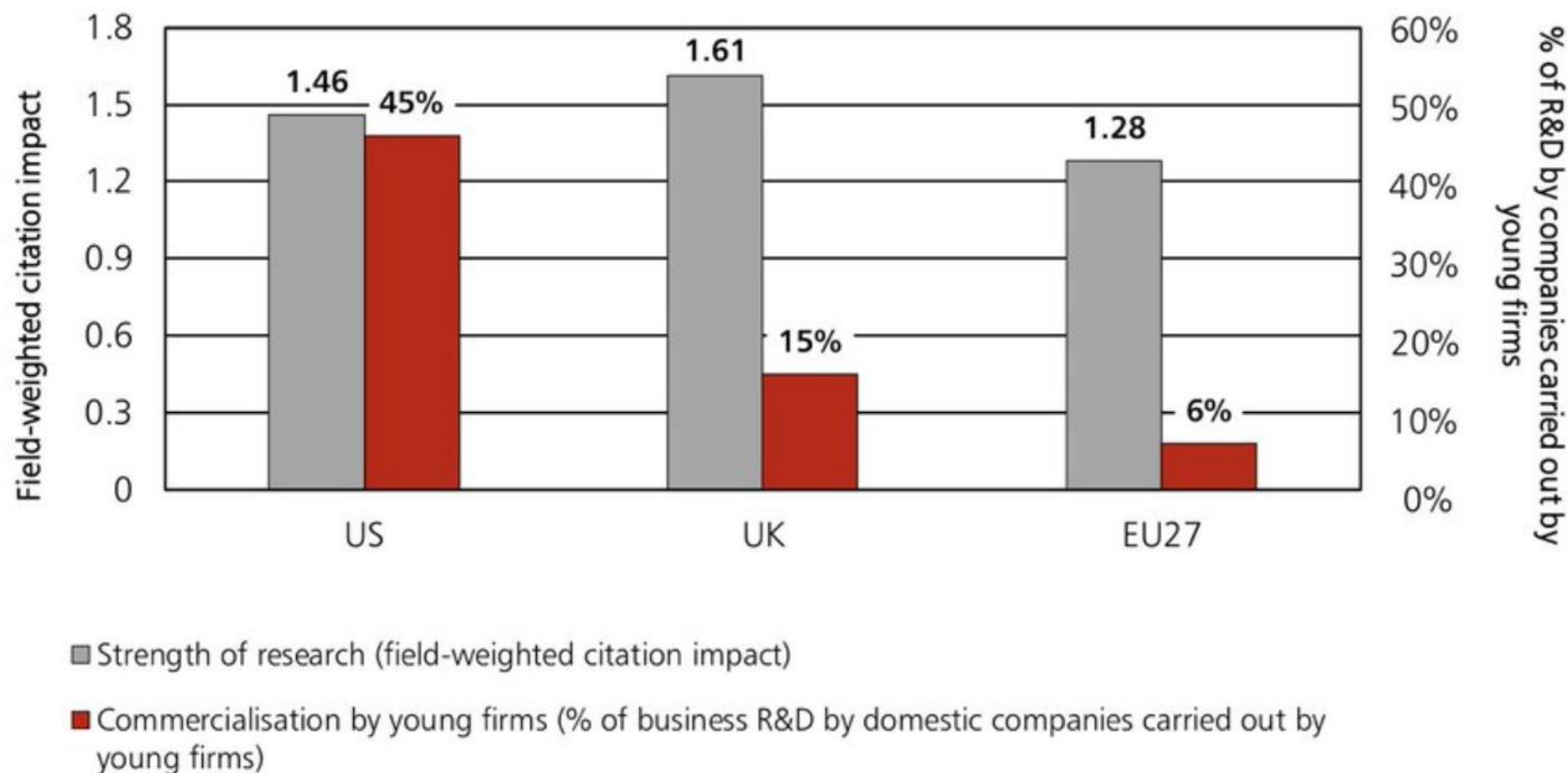
# What is innovation?

“Innovation is change that creates a new dimension of performance.” (Peter Drucker)

“...new ideas that are implemented to create business value.” (Gartner @Gartner\_inc)

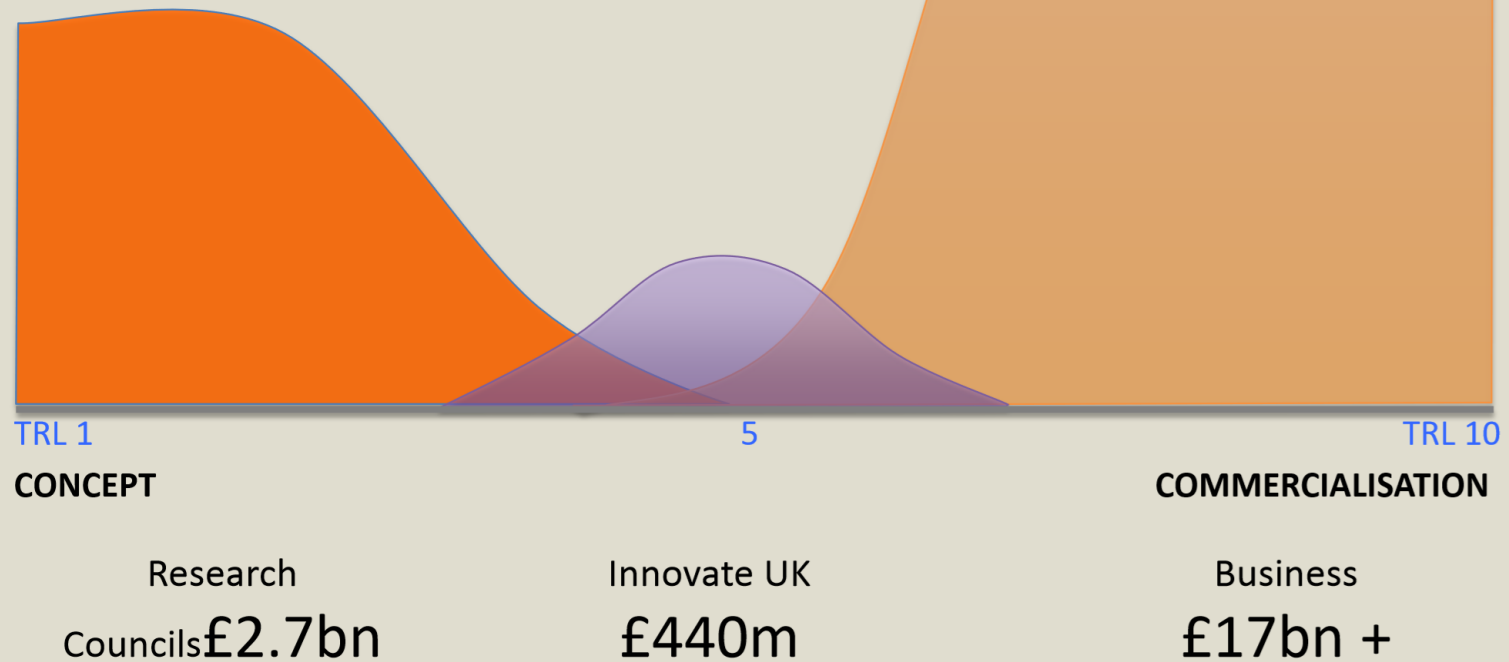
“Innovation is creativity with a job to do.” (John Emmerling)

**Chart 2.A: A comparison of research quality and commercialisation performance by young innovative firms in the UK, US and EU27**



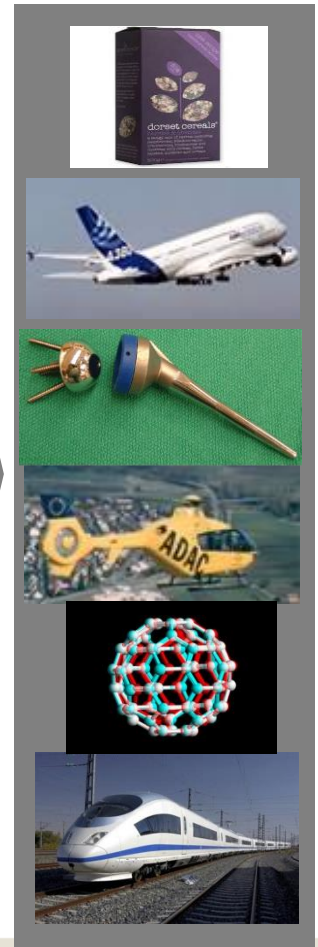
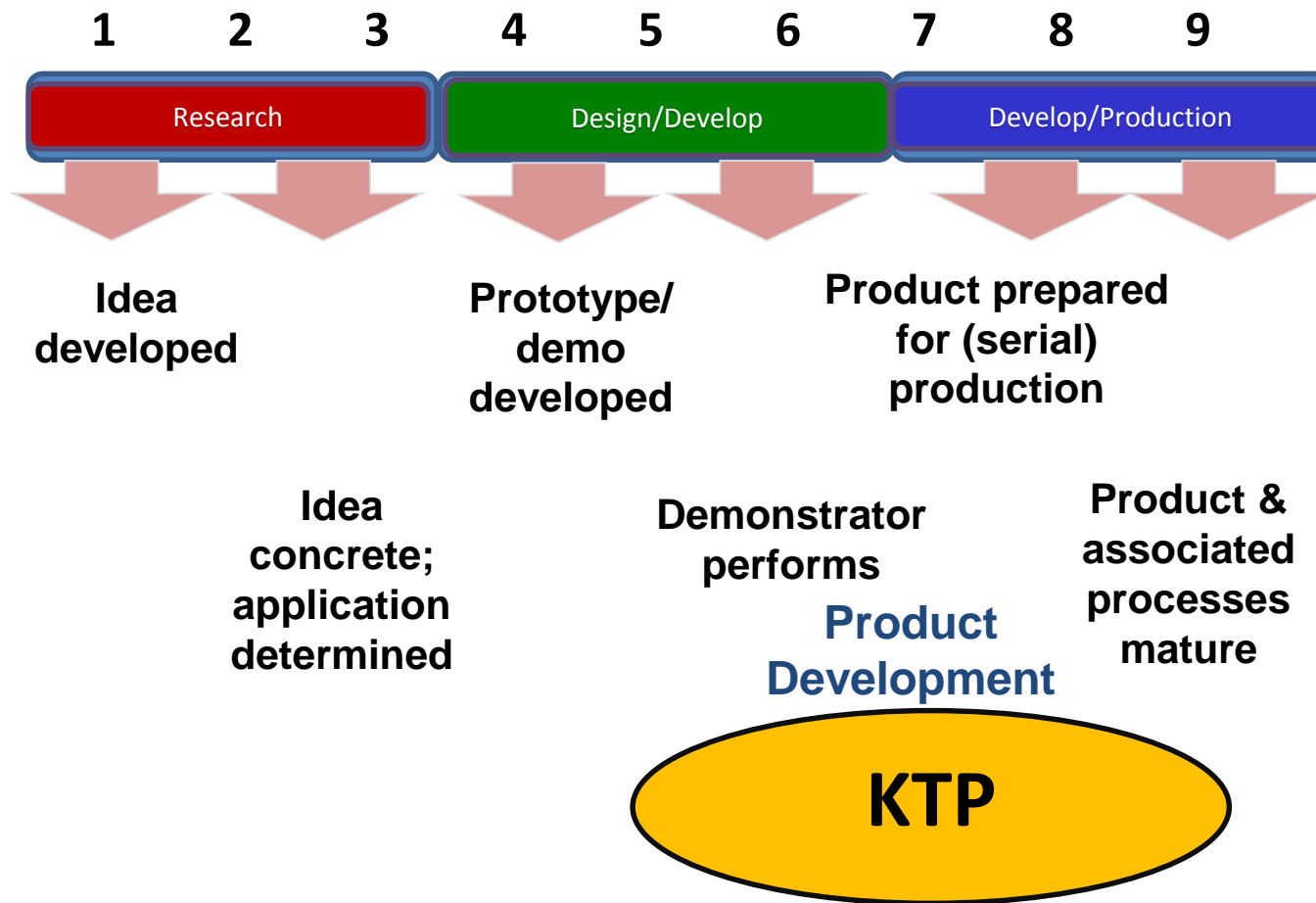
Source: 'International Comparative Performance of the UK Research Base', prepared by Elsevier for the Department of Business, Innovation and Skills, 2013 (available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/263729/bis-13-1297-international-comparative-performance-of-the-UK-research-base-2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263729/bis-13-1297-international-comparative-performance-of-the-UK-research-base-2013.pdf)) | HM Treasury (HMT) analysis of 'EU industrial R&D investment scorecard' (see paragraph 2.9)

# R&D spending



# KTP: Technology Readiness Level

Technology Readiness Level (TRL)



# History of Knowledge Transfer Partnerships



1975

2003

2007



**Launched** as Teaching Companies Scheme (TCS)

Knowledge  
Transfer  
Partnerships

**Knowledge Transfer Partnerships** replaced TCS and Colleges & Businesses Partnership scheme (CBP)

Technology Strategy Board  
Driving Innovation

**Transferred** from the Department of Trade and Industry (DTI) to the Technology Strategy Board, now Innovate UK

**Delivery transferred** to KTN 2017

# Introduction to KTP

- KTP: Europe's most successful Knowledge Transfer Programme, recruiting excellent graduates for innovative businesses
- FORTY+ years old
- 687 live projects at Mar 18
- £22M grant funding in 2015/16
- Funding led by Innovate UK with 11 other funders
- Funding boost for £30M -> 200 KTPs from National Productivity Investment Fund – Industrial Strategy

# KTP Sponsors



Arts & Humanities  
Research Council

**EPSRC**

Pioneering research  
and skills



Scottish Funding Council  
Promoting further and higher education



**BBSRC**  
bioscience for the future

**E·S·R·C**  
ECONOMIC  
& SOCIAL  
RESEARCH  
COUNCIL



Llywodraeth Cymru  
Welsh Government



**DH** Department  
of Health

**MRC** Medical  
Research  
Council



Invest  
Northern  
Ireland  
Building Locally  
Competing Globally



**defra**  
Department for Environment  
Food and Rural Affairs

**NERC**  
SCIENCE OF THE  
ENVIRONMENT

**Innovate UK**  
Technology Strategy Board



**Science & Technology**  
Facilities Council



# Partnership Structure

## Knowledge Transfer Partnerships

Part funded by sponsors and part funded by the business partner, it aims to deliver benefits to the three parties

The project is primarily based at the company and addresses an important business need



# KTP Framework - features



# When and with whom?

- When is it appropriate to use?
  - Organisations **lack a capability** or knowledge to grow.
  - Organisations seek **embed a capability** to produce new products and services.
  - Universities seek to build strategic relationships with organisations, and to grow that relationship using a 'risk managed', impactful mechanism

**Innovate UK:** Any Private sector and others e.g., charities and other third sector that can demonstrate impact

**Welsh Government:** Private sector, social enterprises, not-for-profit organisations, charities and public sector organisations

Funding priority will be private sector SMEs. Applications where a public sector organisation is the company partner (>50% owned by UK Government or a devolved administration) are not supported by Innovate UK. Public sector organisations retain eligibility for KTP where individual projects can be fully funded by co-funding organisations

# What is KTP?

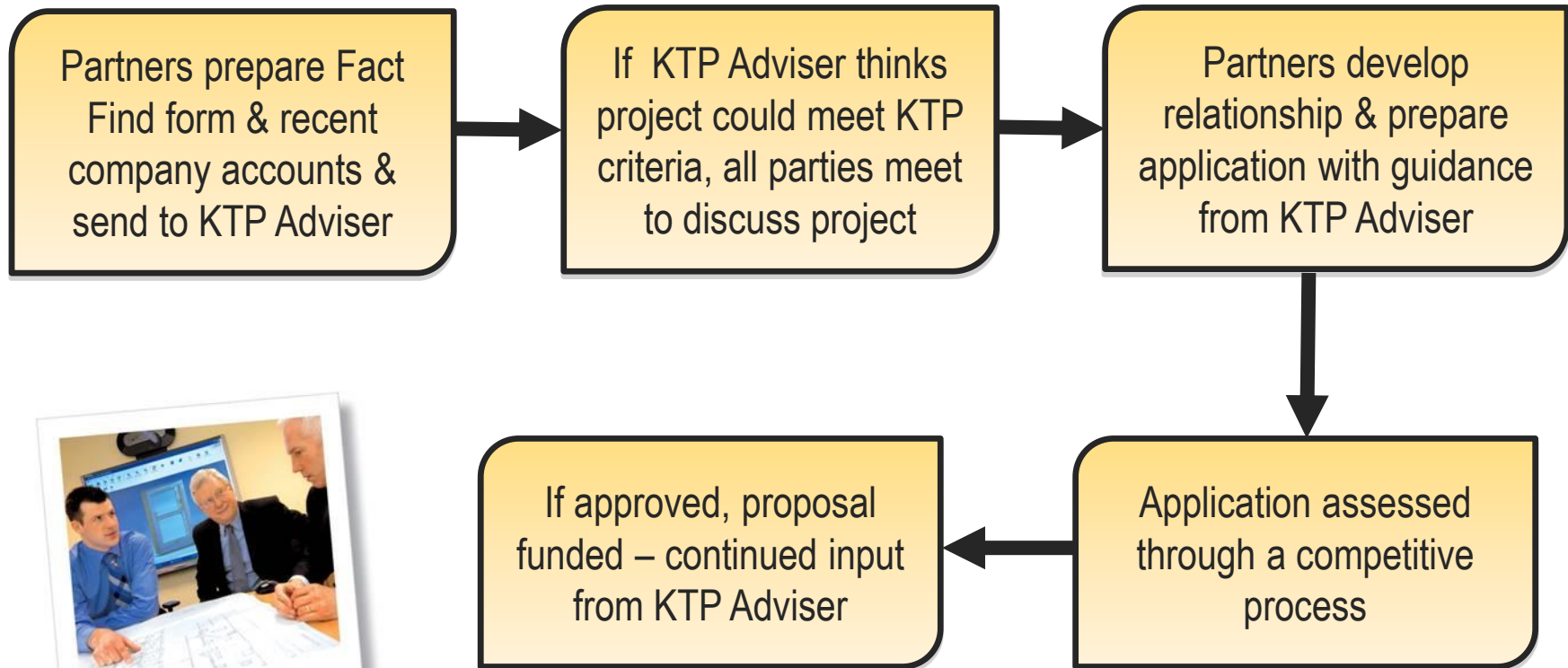
- KTP is all about collaboration and knowledge transfer and exchange
  - A KTP helps business build a close, effective, link with a UK academic partner, to deliver a strategic project and to embed a new, lasting, capability for strong business benefit.
    - This could be improving efficiencies/optimising business opportunities or bringing new technology/service to market.
  - The academic partner will work with the business to recruit an appropriately qualified person (Graduate/Masters/PhD level) to work on the project at the company. This 'Associate' will be the conduit for transferring and implementing the knowledge generated
  - KTPs last between 12 – 36 months, depending on the nature of the project
  - Part of the project cost is funded by the grant (which goes to the University)
  - Part is funded by the business partner



# How does it operate?

- Operates across **all sectors**
- **KTAs advise and help** to establish the KTP, working with a business and an university to create an application. KTAs support and guide successful projects once up and running
- **KTP offices** based in universities provide administrative support including co-ordination of the application process, recruitment and employment of the associate, and co-ordination of the routine reporting and grant claims
- Proposals are **assessed** against criteria to identify and support those with the greatest potential for impact on each participant and that best fit the criteria for funding
- Once approved, the business and university jointly **recruit** an associate
- The business has the opportunity to assess the associate's suitability for **future employment**
- The **application process** and the assessment feedback help applicants understand possible opportunities, manage the project, and form a stronger partnership

# The Online Application Process



# What do the sponsors want?

“Knowing is not enough; we must apply.”

J W Von Goethe (1749-1832)

Innovate UK - The UK's innovation agency:

“good quality projects which demonstrate sufficient potential to contribute to wealth creation and economic growth within the UK.”

See the sponsors' criteria at:

<http://ktp.innovateuk.org/sponsorship-criteria/>

“KTP builds sustainable capacity to innovate through collaboration with the knowledge base.”

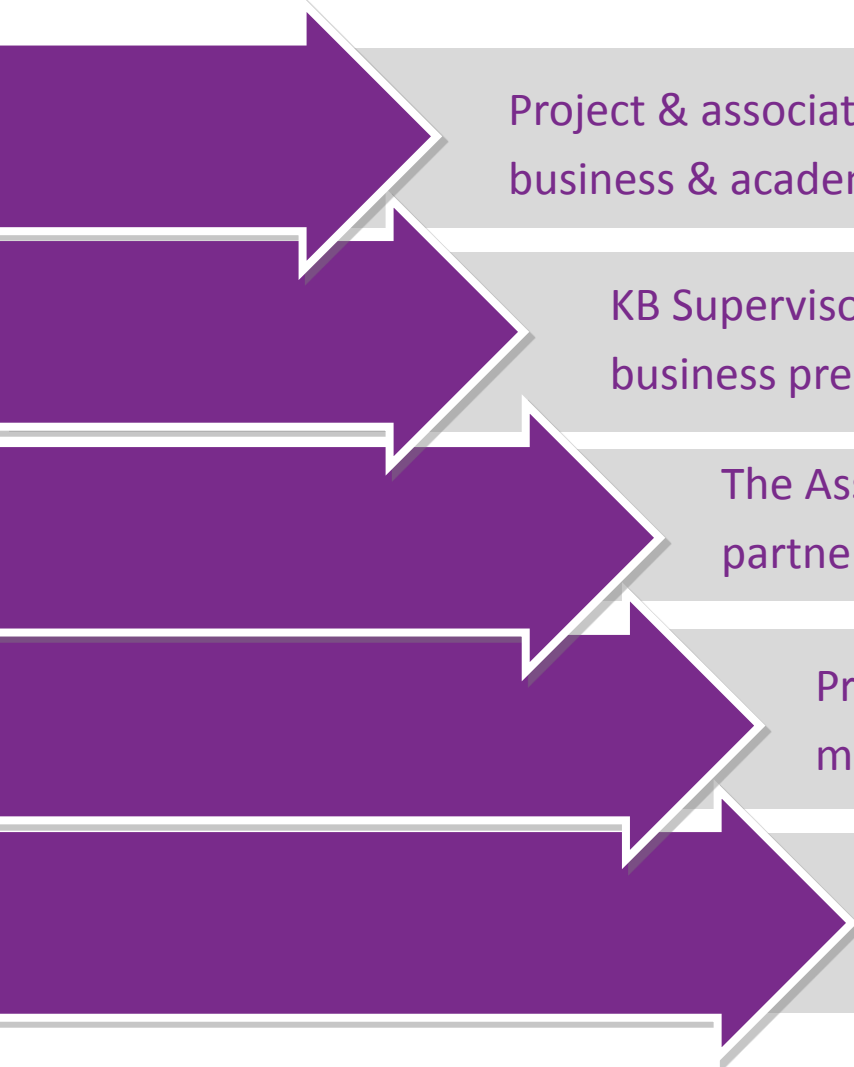
CIHE study, 2012

# Welsh Context

- Strong support from Welsh Government
  - Introduced ‘Enhanced KTP’ 2013:
    - For companies with a base in Wales
    - PhD or working towards PhD
    - 3 years
    - Requiring international knowledge transfer
    - All international T&S covered by WG
  - Preference for shared funding from 2015
  - Criteria broad, but keen to maintain parity with national drive for quality



# Features of KTP



Project & associate located at business premises with business & academic supervision

KB Supervisor spends approx. half a day per week at the business premises (knowledge exchange)

The Associate is employed by the university partner, recruited jointly (with local T&C)

Project length of between 12 & 36 months

Structured project management

# Project Criteria



Strategic relevance to the business and INNOVATIVE

Sound and significant business case – delivering GROWTH & WEALTH creation (not 'catch up')

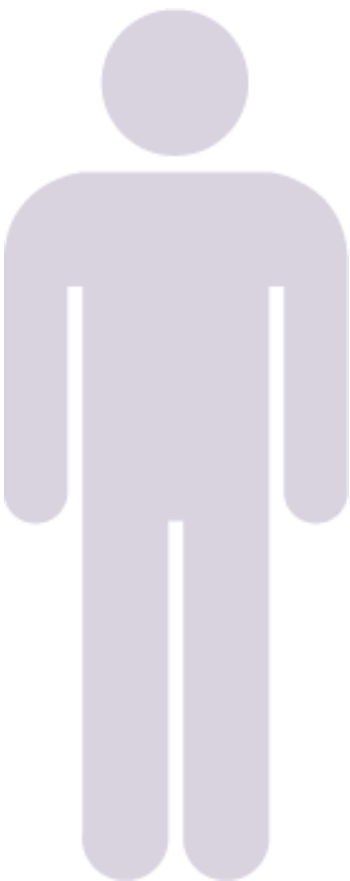
Project with high impact, innovation and challenge, coherently planned leading to CHANGE OF PRACTICE

Clear knowledge transfer – LEGACY

Company can afford to exploit

Three way benefits likely to accrue

# Business Benefits per Associate project



Increase in profit before tax during the lifetime of the project	~ £60,000
Increase in annual profit before tax for the 3 years post completion	~ £600,000
Investment in plant and machinery	~ £300,000
Anticipated increase in annual exports	£650,000
Investment in further R&D	£160,000
New jobs created	2
Business staff trained	20

**5 year average 2011-2016**

# Outcomes per £1M invested

## 5 year average 2011-2016

£700k increase in pre-tax profit during the lifetime of the project

£8m per annum increase in pre-tax profit for the 3 years following completion of the project

£8m per annum increase in exports for the 3 years following completion of the project

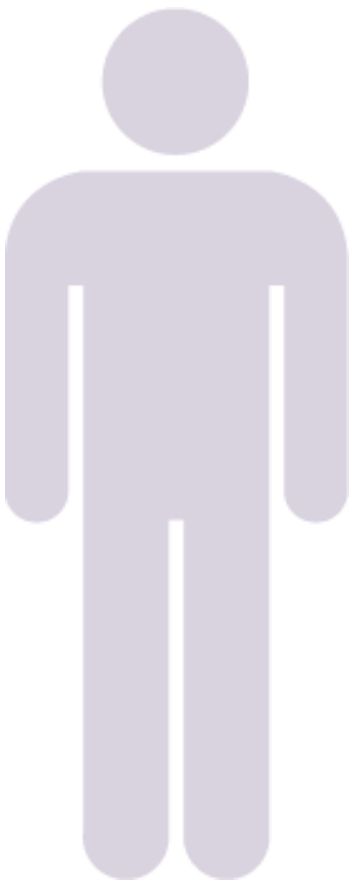
Invested £3.7m in plant and machinery

Invested £1.8m in further research and development

Created 25 new jobs

Trained 250 staff

# Knowledge Base Benefits per Associate project



New research projects initiated	4
Papers published in refereed journals	2
Other articles published	2

**5 year average 2011-2016**

# Knowledge Base Benefits

Income

Published papers

Teaching materials, case studies and projects (88%)

New research themes – commercial relevance (87%)

Staff development – commercial awareness (92%)

Higher degree registrations

Graduate career opportunities

Exploitation of IP developed during project (26% expect commercial benefits)

Strategic relationship with business (81%)



# Associate Benefits

Competitive salary PLUS £2k per annum personal development budget

Part of one of the country's largest graduate recruitment schemes

Employment within the chosen academic discipline and Project Ownership

Fast-track career development

Opportunity to register for higher degree during project

64% of Associates are offered employment by the host business

# Outcomes

- KTP Project performance:
  - Outperformed initial objectives 57 %
  - Achieved objectives 37 %
  - Did not achieve (all) initial objectives 6 %

This means that 94% of projects complete and achieve or over-achieve their objectives (figures from post-completion monitoring)



# Basic Budget

FEC Grant Rate Budget (per 12 months)			
			Amount £
Associate employment costs - <i>up to</i>			45,000
Associate development			2,000
Travel & subsistence			2,250
Equipment & consumables			1,500
<b>Total Direct Costs</b>			<b><u>50,750</u></b>
<b>Directly allocated costs</b>			
Knowledge Base Supervisor (1)			13,500
Associate Estates costs			0
<b>Indirect Costs</b>			
Additional Associate support (2)			22,500
<b>TOTAL (up to)</b>			<b>86,750</b>

(1) KB Supervisor costs pay for 10% of academic time per year

(2) An example figure is used for the costs of additional Associate support additional to the KB Supervisor.

**Note:** Plus London weighting of £3,000 pa on associate empt. costs if the company is in London area

# Funding & Grant Rate

FEC Grant Funding Rates	
SMEs	67%
Large companies	50%

- The project budget covers Associate salary and overheads, academic time, generous training budget for the Associate as well as some provision for travel/consumables and potentially University Estate Costs (max £10k)
- SMEs contribute 33% in cash towards project cost (SMEs receive 66.7% grant funding);
- Large companies contribute 50%
  - *Typical SME Contribution to the KTP project budget and associate salary top ups is between £20-30k per annum*
  - *Company investment may be eligible for R&D Corporation tax credits*





# The Company Viewpoint

“KTP – the transfer of knowledge leads to sharing of ideas which drives innovation”

“The KTP project has had a major influence in developing a sound basis for the expansion of the business”

"The discipline within a KTP project has caused us to evaluate how we do things. This has led to an improvement in processes across the business“

"The KTP fundamentally changed our business, bolstering existing capabilities and adding new ones. We're now both equipped and confident in our ability to meet the challenges of the 21st century head on"

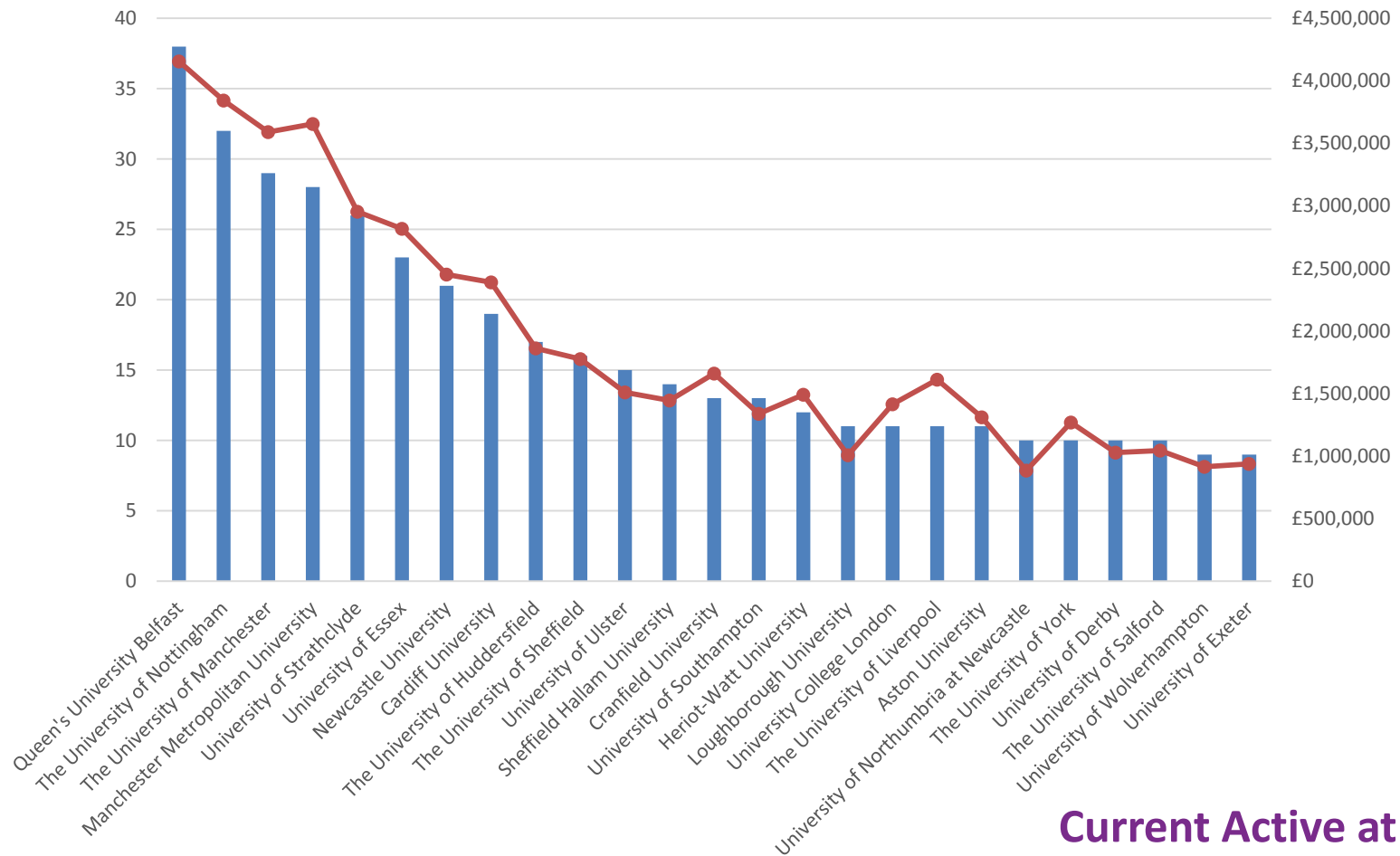
# What academics have said

## The experience:

- The application process allows everyone to be very clear about the objectives and it gives time to decide whether you can work as a team for 2+ years, facing significant challenges together
- The KTP structure really helps to facilitate good working relationships because of its demand for clear, shared objectives
- You will need senior management buy-in to really exploit the opportunities offered
- Expect hard work and challenges, and it's a long term commitment (usually 2 years)
- It's a chance to work with wide range of businesses (organisations)
- I have created a lasting relationship; it lets me keep in touch with industry formally and informally
- Uniquely, the scheme provides an independent KTP Adviser to help defuse any issues before they become problems and to keep us focused on the deliverables.

# KTP – UK Top 25

Current Active Partnerships



Current Active at Jun 18



# Howard Nicholls

KTA – Senior Knowledge Transfer Adviser

[howard.nicholls@ktn-uk.org](mailto:howard.nicholls@ktn-uk.org)

<https://www.gov.uk/guidance/knowledge-transfer-partnerships-what-they-are-and-how-to-apply>.