University-Industry Collaboration – the Bangor Story

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March 1936, a worker testing the links of a giant chain in a chain works in Pontypool, South Wales (photo by Fox Photos / Getty Images)

Where is Bangor?
About Wales:

Population circa. 3m (22% Welsh speaking)
West Wales and the Valleys circa. 2m

Wales business population: 170,000
- SMEs 99.9%
- Micro SMEs 94%

Research spend (% of GVA) 1.3%
Lisbon target – 3%

European Structural Funds

- Convergence Funds 2007 - 2013
- Lisbon and Gothenburg Agendas
- Cross cutting themes
- Territorial Co-operation
Bangor University

Serious Engagement with business

1. **ESF Higher Skills Taught Masters = over 150**
   - Focused on local industrial sectors:
     Marine Environmental Sciences, Chemical Skills, Countryside Management, Ecological Skills, Land based Skills, Exercise and Health Promotion and Heritage Management

2. **Knowledge Transfer Partnerships (KTP)**
   - Ground breaking and award winning projects
   - 100th Partnership (Euro 18m collaborations)
   - Ground breaking introduction of arts & humanities

3. **Knowledge Economy Skills Scholarship**

   **Phase 1:** Developing Research Skills
   - Objective 1 ESF Oct 04 - Oct 07
   - 50 PhDs (Bangor)

   **Phase 2:** Research Skills Training
   - Objective 1 ESF July 05 - June 08
   - 60 Additional PhDs
     (40 Bangor, 20 Aberystwyth, 20 Swansea)

   **Phase 3:** Knowledge Economy Skills Scholarships
   - Convergence ESF (Sept 08?)
   - PhDs (220) + Masters by Research (200)
partnerships......

computing
Knowledge Transfer Partnership

computing
Short Term Under Graduate Projects

business
ESF funded PhD Studentship

Responsible Partnering
Joining forces in a world of open innovation
A guide to better practices for collaborative research between science and industry
• Emphasises PARTNERSHIP rather than projects
• Encourages critical evaluation
• Establishes a framework to address key issues
• 10 guidelines support consistency

Responsible Partnering
Joining forces in a world of open innovation
A guide to better practices for collaborative research between science and industry
• TRUST
• UNDERSTANDING
• TIME
3. Knowledge Economy Skills Scholarship

**Phase 1:** Developing Research Skills  
Objective 1 ESF Oct 04 - Oct 07  
50 PhDs (Bangor)

**Phase 2:** Research Skills Training  
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60 Additional PhDs  
(40 Bangor, 20 Aberystwyth, 20 Swansea)

**Phase 3:** Knowledge Economy Skills Scholarships  
Convergence ESF (Sept 08?)  
PhDs (220) + Masters by Research (200)
Knowledge Economy Skills Scholarships (KESS)

Objectives:

• Prepare and train individuals to contribute to research as professionals.
• Increase the research capacities of SMEs by linking with a Ph.D. project.
• Encourage SMEs to undertake research and recruit researchers.
• Support development of key technologies in the Convergence area

Knowledge Economy Skills Scholarships (Phase 1&2)

Business Sectors Involved:

• Aquaculture
• Biotechnology
• Creative Industries
• Environmental Goods and Services
• Food Manufacturing
• Materials Science
• Professional and Health Services
• Petroleum Refinery
• Software Development
• Tourism
Knowledge Economy Skills Scholarships

Size of Participating Companies (Phase 1)

Large companies (1)
SMEs (18)
Micro SMEs (33)

Knowledge Economy Skills Scholarships (Phases 1&2)

Results of External, Independent Programme Evaluation:

- Importance of skills development and networks
  (Students and Companies)
- Innovative and successful model
  (Lisbon agenda, regional R&D)
- Employability of doctoral students has risen
- Responsible Partnering Framework
  (www.responsible-partnering.org)
- University’s research profile raised
- Greater flexibility in the model
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<th>Aspects to improve</th>
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Companies said that their return on investment was not as high as it could be. It seems that some companies had unrealistic expectations.

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20% of employers:

Started the project unclear what the scheme would entail in practice
And what the respective roles and responsibilities were for company, student and university.
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Refinement of administrative processes to make them more “user friendly”

The value of the “badge of working with Universities”
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“Two way exchange of knowledge and expertise held strong appeal for most companies”

“The project helped two way changes in thinking and expectations”

VIVA LISBOA!

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“75% of the companies confident that research would benefit them:

GENERALLY – improve knowledge, boost profile, support grant applications

SPECIFICALLY – new products and processes, creation of resources

VIVA LISBOA!”
Early Discussion
Detailed Negotiation
Project inception
Project period
Toward completion

Align interests
Treat collaboration strategically
Organise for lasting relationships
Establish clear intent
Use standard practices and communicate regularly

Companies that sell expertise and knowledge to others found collaboration with the student particularly beneficial.

Knowledge Transfer Partnership
is Europe’s leading programme helping businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base.
Bangor's Knowledge Transfer Partnerships in North Wales
- Arts and Humanities
- Business, Law and Social Sciences
- Education and Lifelong Learning
- Natural Sciences
- Health and Behavioural Sciences
- Physical and Applied Sciences

Bangor's Knowledge Transfer Partnerships across the UK
- Arts and Humanities
- Business, Law and Social Sciences
- Education and Lifelong Learning
- Natural Sciences
- Health and Behavioural Sciences
- Physical and Applied Sciences

3 drivers:
• Address skills or capability gap
• Meet technical need
• Desire for partnership
MBA dissertation Andrew Felton 2008– evaln 37 KPT:

**Why Bangor:**
- Geographical proximity
- Existing relationship
- Has relevant expertise

**Bangor’s Knowledge Transfer Partnerships in North Wales**
- Arts and Humanities
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**UK KTP Awards 2007**

**Best KTP Programme**
Vision Support Trading Ltd and the School of Computer Science
Automation and digitising the production of large print Braille and audio for visually impaired consumers

**Winning Partnership**
Lane 4 Management and the School of Sport, Health and Exercise Sciences
Development of a high performance Environment model and scan
foster strong institutions
align interests
treat collaboration strategically
organise for last relationships
provide right professional skills
establish clear intent
use standard practices and communicate regularly
achieve effective IP

Knowledge Transfer Partnership

Profitability targets exceeded 5 fold
Secured position in the company
Board level reporting during project

New business Process introduced
World class research embedded in a company
March 1936, a worker testing the links of a giant chain in a chain works in Pontypool, South Wales (photo by Fox Photos / Getty Images)