

## LINKS BETWEEN NORTHUMBERLAND EMPLOYERS AND NORTH EAST UNIVERSITIES

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### The Northumberland Information Network is a partnership between:

ONE North East, Northumberland Strategic Partnership, Northumberland County Council,  
Northumberland Learning & Skills Council, Business Link for Northumberland,  
Connexions, Northumberland Care Trust, Northumberland CDRPs, Northumberland  
DAAT and GO-NE.



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## **EXECUTIVE SUMMARY**

Northumberland Information Network was asked by Northumberland County Council to explore existing relationships between Northumberland based employers and the six North East universities. This piece of research reflects current national themes related to supporting and developing collaboration between businesses and universities whether on an international or sub regional level.

A number of Northumberland employers with existing links were identified from a combination of desktop research and provision of information from key organisations. Based on a detailed survey of 18 employers in Northumberland, this report outlines linkages with the six regional universities. It looks at how these links have developed, identifies potential barriers and puts forward a number of recommendations for supporting employer-university relationships.

### **Existing University Linkages**

- The majority of employers interviewed have links with 2 or more North East universities.
- The main areas in which links have developed are in R&D, professional development/specialised training and provision of student/graduate places.
- The strongest links are with the University of Newcastle (mainly R&D based) and Northumbria University (mainly related to professional development or specialised training).
- Research and development was strongest at the University of Newcastle followed by Durham and Northumbria respectively.
- Northumbria had the strongest links in terms of delivering professional or specialised training.

- Overall the University of Durham had the most links with employers in relation to providing student and graduate places such as Knowledge Transfer Partnerships.
- In terms of consultancy Northumbria and Newcastle provided most links.
- A third of companies have had links with universities located outside the region. These links are mainly related to specific pieces of consultancy or providing students with short periods of work experience.
- The majority of links within the North East are long term and on-going.
- Over half of the links developed had been via intermediate support organisations.

## **Potential Barriers**

- Lack of awareness of what universities have to offer businesses.
- Initial contact within a university, who to contact?
- Difficulties in timescales and deadlines due to differing business-university priorities.
- Businesses and universities roles within collaboration often were not clear, including issues of intellectual property or potential competition.
- A general perception of Northumberland's "remoteness".
- A lack of long term view, particularly related to research and development.
- Lack of information relating to employer needs.
- Issues relating to funding and recognition of potential costs.
- Lack of suitable facilities/premises within Northumberland.

## **Recommendations**

- **Active Promotion of Regional Universities and Other Organisation:** Active promotion of the universities centres of excellence and related units and organisations. Such promotion could include a regular event where businesses meet universities and intermediate organisations.
- **Clarity of Resources Currently Available:** Provision of information that pulls together information from both universities and intermediate organisations such as key contacts, resources and facilities available, comprehensive list of funding available and particular sector interest could be beneficial.
- **Development of a Dedicated Website:** Information provision via the development of a dedicated website focusing on the Northumberland picture within the North East Region.
- **Database/directory:** Information sharing between NCC, the universities and support organisations.
- **Developing Business Partnerships and Associations:** Formation of business/university partnerships or association offering advice and promoting successful business-university collaboration.
- **Partnership Working:** NCC developing links with the North East Universities and support organisations which could facilitate employer relationships.
- **Assistance with Funding:** Assistance with funding or basic clarification of funding streams available to businesses.
- **Support and Actively Encouraging Future Development:** Infrastructure development which would help facilitate business-university interaction such as a science park, new technology institute and provision of suitable premises.

- **Further Areas of Research:** A comprehensive audit of existing links within Northumberland working in partnership with the universities and support organisations.

## **1. INTRODUCTION**

### **1.1 Background**

In 1999 One North East published the Regional Economic Strategy in which a framework was set out for long term sustainable growth in the North East over the coming 15 years. Amongst the six main objectives set out to achieve this goal were strong themes of strengthening links between businesses and universities in the region. This is particularly apparent in objective 4 of the strategy, “Recognising Our Universities and Colleges at the Heart of the region's Economy”. There have been two subsequent reviews since, Realising Our Potential (2002) and the current, less inwardly looking, Leading the Way (2005).

Similar themes are echoed in other European, national, pan regional, regional and sub regional frameworks and strategies such as:

- The Lisbon and Gothenburg Agenda
- Northern Way Growth Strategy
- Strategy for Success
- Shaping Horizons in the North East (SHINE)
- Sub Regional Partnership Action Plans

All contain themes, directly or indirectly, related to supporting and developing business-university relationships by encouraging research and innovation, knowledge transfer, entrepreneurship, adapting to new technologies, increased partnership working across all levels and aid for SME's.

The Lisbon and Gothenburg Agenda outlines a framework for the European Union to become “*the most competitive and dynamic knowledge based economy in the world...*”

The Northern Way Growth Strategy “*...ensuring that northern universities are world class in their teaching and research, and work well with business to boost economic success*”.

The Strategy for Success sets out the future look of the region by 2016, “*world leading research will be undertaken in collaboration with the other Northern Regions and with the universities, placing them firmly at the heart of our globally competitive economy. The North East will have an internationally recognised system of technology transfer to new and existing businesses...*”

Other programmes, from European to sub regional level, offer support for this via funding streams such as the European Objective 2 Programme including funded priorities to encourage “...new businesses and marrying entrepreneurs with ideas and skills...”. A summary of funding, although not exhaustive, can be found in section 5.1

Another aspect of encouraging university-business relationships as a valuable element in sustainable economic growth is the importance of training and skills development and knowledge retention within the region. This is reflected in the sub regional framework for economic activity “The Northumberland VIBE” (2004).

Recent key research into business-university relationships include the “Lambert Review of Business-University Collaboration” (2003) and “Higher Education-Business and Community Interaction Survey 2002-2003

## **1.2 The Research**

Within the context of this, Northumberland Information Network, was asked by Northumberland County Council to carry out a piece of research to explore the existing relationships between Northumberland employers and the regional universities.

This report outlines linkages found between those Northumberland employers interviewed, most of which were Small and Medium Sized Enterprises (SME’s), and the six regional universities; it looks at how these links have developed and identifies potential barriers to maintaining present links or the development of new relationships in the future.

This initial piece of research has quite a wide scope in terms of relationship types this was to “gain a feel for what is out there at present”. Therefore links in relation to this piece of research have been split into two main types and include:

- Formal links
  - University spin-out companies:
  - Research and Development
  - Collaborations
  - Consultancy
  - Product/material testing
  
- Informal Links
  - Provision of professional training or specialised training
  - Sponsored student posts, studentships, graduate based knowledge transfer partnerships (KTP's)
  - Work experience for students
  - Academic secondments
  - Use of facilities such as meetings, conferences or laboratories

Themes drawn from this research will feed into a series of recommendations in terms of improving existing and encouraging future business-university relationships. In addition areas of future research are also identified. It is hoped that both will help to inform current as well as future policies and initiatives by Northumberland County Council and its partners, looking particularly at promoting SME's and technology based clusters in terms of strengthening existing and encouraging new links between employers and the regional universities.

Themes to be brought out of this research include:

- Identifying the types of links that exist between employers located in Northumberland and the regional universities.
  
- Identify links with universities outside of the region.

- How have existing links with the regional universities developed?
- What connections, if any, employers have with other organisations such as Centres of Excellence, Regional Technology Centre, and Knowledge House etc.
- Identification of possible barriers to present links continuing or future ones developing.
- The level of employer awareness in terms of what the universities have to offer.
- Gather opinions on how links with universities could be further facilitated.
- An overview of what universities and other organisations have to offer and possible ways of working in partnership with Northumberland County Council and its partners.

## **2. METHODOLOGY**

Investigating the present links Northumberland employers have with the regional universities required gathering information on four levels:

- Collating a list of Northumberland employers to contact as part of the survey, which presently have or have had links with the regional universities.
- Overview of the six regional universities in terms of linking up with employers.
- Overview of intermediate organisations involvement.
- Background information relating to employer-university relationships.

This was carried out by the following methods:

- Desktop research, collating data from existing research documents and other sources.
- Information gathered by means of visiting all six regional Universities:
  - University of Durham
  - University of Newcastle upon Tyne
  - Northumbria University
  - University of Sunderland
  - University of Teesside
  - The Open University
- Information gathered by visiting/contacting key organisations, particularly those involved in employer-university relationships, including:
  - Northumberland County Council- Business Centre
  - Six District Councils- Economic Development Officers
  - Business Link
  - One North East: Science and Industry Council/Industry for Innovation & Science
  - Chamber of Commerce

- Universities for the North East
- Knowledge House
- Regional Technology Centre
- North East Innovation Centre
- North East Regional Information Partnership (NERIP)
- Skills Intelligence North East (SINE)

A list of Northumberland employers with links was compiled from a combination of the above; although this did have its difficulties, please refer to the section on limitations. A survey of employers was carried out by a semi-open ended questionnaire conducted via telephone.

A final list of 32 employers was compiled and initial contact was made to explain the purpose of the research and ask whether they would like to participate in the study. Employers were involved in a range of activities including engineering, electronics, pharmaceuticals, bio processing, renewables, software design and biotechnology. From this 18 employers agreed to take part and a convenient time slot of approximately 30 minutes was then agreed to conduct a telephone interview.

The questionnaire was developed to include identification of relationship types, how links developed, who facilitates this process, identification of possible barriers and how Northumberland County Council and partners could help in this process. The questionnaire was further refined by carrying out a pilot through two employers and advice sought from work colleagues. A copy of the questionnaire is contained in Appendix A.

Within the universities key people were contacted relating to the research subject, these included the Regional Director (The Open University), Business Development Directorate (University of Newcastle), Commercial Enterprises (Northumbria University), Department of Academic Enterprise (University of Teesside), Business Development (University of Sunderland) and the Research & Economic Development Support Service (University of Durham). Information on how each university interfaces with businesses was gathered from interviews in which key themes relating to the employer questionnaire were discussed. This process was repeated

for key organisations directly or indirectly involved in university-employer relationships.

Themes that emerged from all interviews, meetings and discussions are summarised in section 4 and recommendations discussed in section 5 of this report.

## **2.1 Limitations**

Major difficulties were confronted in terms of collating a comprehensive list of Northumberland based employers possessing links with the regional universities. Many organisations were reluctant to share information on employers stating data protection, the competitive nature of some sectors and confidentiality as major concerns. This was despite assurances that employers would remain anonymous in research outputs. However I would like to thank those organisations who were very helpful in this regard.

The length of time it took to gather enough information on employers and arrange interviews. For some employers who had indicated they would like to take part it was impossible to arrange a suitable time despite a number of attempts.



### **3. THE REGIONAL UNIVERSITIES**

#### University of Durham

The University of Durham has no truly centralised 'unit' as such in terms of interaction with businesses although the two main contacts are the Research and Economic Development Support Service which houses the Knowledge Transfer Partnerships and Knowledge House with an in house Knowledge Transfer Manager. There are pockets of activity elsewhere in the University, largely departments which have had long term relationships with business over many years. A centralised system may have to develop in the near future as other departments are brought together more, partly in response to changes in R&D funding, but also due to the fact that collaboration is now higher up in the agenda than previously was the case. Main focus includes R&D, knowledge transfer, industrial consultancy and undergraduate/graduate KTP's.

#### University of Newcastle upon Tyne

The University of Newcastle upon Tyne again has no centralised 'unit' for business interaction. Contacts include Business Development Directorate, The Stephenson Group and Knowledge House. Focus includes R&D, knowledge transfer, consultancy, undergraduate and graduate KTP's, professional development, business development and nurturing spin out companies.

#### Northumbria University

Northumbria University generally has a more centralised approach to interaction with business. The main point of contact is through Commercial Enterprises and again Knowledge House is also represented. Main services offered to businesses are Consultancy, applied research, product development, workshop/laboratory facilities for testing, professional development and customised/specialised training, Teaching Company Schemes, business start up schemes and business hatcheries.

#### University of Sunderland

Like Northumbria, Sunderland university generally has an umbrella approach to business-university interaction. The main point of contact is through the Business Development unit and as in all the other universities, Knowledge House.

Main areas of collaboration include R&D, knowledge transfer, consultancy, undergraduate and graduate KTP's, professional development, workshop/laboratory facilities for material testing and specialised training/support, for example "Accelerate NorthEast" aimed at the manufacturing industry. Sunderland has close links with two of the Centres of Excellence; CODEWORKS via the universities Digital Media Network (DMN) and CENAMPS through the planned nanotechnology product development facility.

#### University of Teesside

In terms of business-university relationships the Department of Academic Enterprise is the central point of contact with Knowledge House representation. The centre has four main functions: knowledge transfer partnerships, intellectual property and commercialisation, incubation for graduate spin out companies or for R&D and delivering specific schemes to SME's such as the "Bridges and Routes" scheme which matches skilled graduates to individual businesses. Main areas of collaboration include R&D, knowledge transfer, consultancy, undergraduate/graduate KTP's (mainly IT and manufacturing), conference facilities, training and staff development. Teesside is strongly linked to two of the Centres of Excellence: CODEWORKS and NaREC. Future developments include the leisure and tourism sector through funding from ONE (NE).

#### The Open University in the North

The Open Universities strongest links with employers are within provision of professional development, tailored training courses and work based learning programmes. Personal tutors are usually from existing research establishments, higher education institutes, business and industry. Open learning, flexibility and work based learning which are a feature of OU courses often suit businesses, particularly SME's. Approximately 25-30 companies within Northumberland have employees on paid OU courses. Also working with Northumberland County Council in developing entrepreneurial skills of companies within Northumberland.

N.B. Key themes from meeting up with the universities are discussed in section 4.6.2



## **4. NORTHUMBERLAND EMPLOYER LINKS**

### **4.1 Existing University Linkages**

Of the 18 employers interviewed 13 indicated links with 2 or more of the regional universities. The strongest, but fairly different, links being with the University of Newcastle (mainly R&D based) and Northumbria University (mainly related to professional development or specialised training).

As for the universities, research and development was strongest at the University of Newcastle followed by Durham and Northumbria respectively; particularly in departments relating to engineering and computing. Northumbria had strongest links in terms of delivering professional or specialised training. As for providing suitable opportunities for students and graduates in terms of KTP's and studentships the University of Durham provided 6 such links followed by Newcastle/Northumbria (4) and Tees (2). Most of the student links were via KTP's through the DTI and relevant university literature.

Northumbria and Newcastle provided most links relating to consultancy, 5 in all, including electrical engineering.

A third of companies have had links with universities located outside the region, half of which were with 2 or more universities. Links outside of the region were mainly related to specific pieces of consultancy, providing students with short periods of work experience and to a lesser degree research and development.

**Figure 1: Existing Linkages within each of the North East Universities**

Link	University						Total
	Univ of Ncle	Univ of N'mbria	Univ of D'ham	Univ of Sund	Univ of Tees	Open Univ	
Spin Out Companies	3	-	-	-	-	-	3
Research & Development	8	2	3	-	-	-	13
Collaborations	1	-	-	-	-	-	1
Consultancy	2	3	-	-	1	-	6
Product/Material testing	2	1	-	1	-	-	4
Other	-	-	-	-	-	-	0
Professional development training or specialised training	2	7	2	2	-	1	14
Sponsored university posts/studentships/graduate based KTP's	4	3	4	-	2	-	13
Work experience for students	-	1	2	-	-	-	3
Academic secondments	-	-	-	-	-	-	0
Facilitating meetings/conferences/labs	-	-	2	-	-	-	2
Other	-	1	-	-	-	-	1
<b>Total</b>	<b>22</b>	<b>18</b>	<b>13</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>60</b>

- **Formal Links**

Within the region strongest formal links were in research and development, 10 indicating such links ranging from engineering to materials development. 6 indicated links in terms of consultancy.

3 indicated having links with a spin out company (SOC) while another 2 where in discussions in terms of future collaboration with a university SOC. Interestingly, 2 of the businesses interviewed had once been a SOC and had continued relationships in the form of research and development and providing places for students. All SOC related links were via the University of Newcastle.

Other formal links were regular product or material testing at Newcastle, Northumbria and Sunderland universities.

- Informal Links

The majority of employers interviewed (13) have, or at some time have, used the regional universities in provision of professional development or specialised training.

In terms of sponsored student posts, studentships or graduate Knowledge Transfer Partnerships, 8 indicated involvement. Another 3 provided work experience places for student

Two employers had also indicated using university facilities, in both cases this was laboratory space and located within the University of Durham.

## 4.2 Summary of Existing Linkages

**Figure 2: Existing Linkages Between the Employers Interviewed and North East Universities**

University	Employer																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
University of Newcastle	F2	-	F2	F2	I1	-	F5	F2	F6	F1	F5	F1	-	F1	F4	F2	-	-
	-	-	-	I2	-	-	F4	-	-	F2	I1	F2	-	F2	-	-	-	-
	-	-	-	-	-	-	I2	-	-	F3	I2	-	-	I2	-	-	-	-
Northumbria University	I6	F2	F5	-	-	F4	I1	I2	-	I1	I1	F2	I3	I2	I2	-	I1	I1
	-	I1	-	-	-	-	-	I1	-	-	-	F4	-	-	-	-	F4	-
University of Durham	-	-	-	I2	I3	F2	-	I2	-	-	F2	I3	-	F2	I1	-	-	-
	-	-	-	I5	-	I2	-	I5	-	-	-	-	-	I1	I2	-	-	-
University of Sunderland	I1	-	-	I1	-	-	-	-	-	-	F5	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
University of Teesside	-	-	-	-	-	I2	-	I2	-	-	-	-	F4	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
The Open University	-	-	-	-	-	I1	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Figure 3: Key to Linkage Types**

Code	Formal Links
F1	Spin Out Companies
F2	Research & Development
F3	Collaborations
F4	Consultancy
F5	Product/Material testing
F6	Other
Code	Informal Links
I1	Professional development training or specialised training
I2	Sponsored university posts/studentships/graduate based KTP's
I3	Work experience for students
I4	Academic secondments
I5	Facilitating meetings/conferences/labs
I6	Other

## 4.3

## **Development of Existing Links**

In terms of how relationships developed or evolved, a third of employers had on-going long term relationships (in some cases so long ago that they could not pin point how relationships developed). Another third indicated that contacts made when an employee was studying at the university had been the main catalyst for relationships developing. Another two had originally been spin out companies from the university and working relationships had naturally continued.

Over half of the links developed had been through intermediate organisations such as Entrust, Knowledge House, Business Link, CODEWORKS and the Regional Technology Centre. A number of these had also been from regional contacts through professional membership such as the North East Innovation Centre.

A small number indicated that they generally try and keep up to date with what the universities have to offer via articles, graduate fairs etc. Just over a quarter felt that they were quite happy at their level of awareness of what universities in the region may have to offer.

### **4.4 Role of Intermediate Organisations**

Four employers indicated having linked up with a number of Centres of Excellence in terms of collaboration these were with NaREC (2), CODEWORKS (1) and CENAMPS (1). Another 5 employers indicated they were hoping to work with a CoE in the near future and were either in early discussions or initial contact with the relevant organisation.

Six employers indicated linking up with universities through the Regional Technology Centre another two via the North East Innovation Centre.

Just over a third interviewed indicated that ONE (NE) had been involved in developing links in terms of advisory role or provision of funding. Three links had developed through Entrust and two via Knowledge House.

## **4.5 Impact of Linkages**

Over two thirds of employers indicated that linking up to universities has had a positive effect for the business. Positive effects ranged from improving business performance to being able to access technology/equipment that would not have ordinarily been available. Others indicated that linking up with the universities, although not a key or critical part of the business was still an important element.

## **4.6 Potential Barriers**

### **4.6.1 Employers Views**

Half of the employers interviewed thought that many employers were not aware of what universities have to offer businesses.

Approximately a third interviewed indicated that the mere fact that it is not always clear who to contact initially within a university may put some off. Two thirds, although already working with universities in some form, felt that they still lacked awareness of what other universities in the region could potentially offer their business.

Universities not being able to deliver within timescales and deadlines due to differing priorities to business was also seen as another key issue; although a number added that this was improving.

Another difficulty indicated by a number of those interviewed was the fact that businesses and universities roles within collaborations often were not clear. This included clarity of IP ownership, what universities wanted from the collaboration and sometimes seeing universities as potential competitors.

A small number indicated that a general perception of Northumberland “remoteness” could be a potential barrier to future business-university collaboration.

### **4.6.2 Universities Views**

Potential barriers to businesses successfully linking up with universities included universities emphasis on teaching and research, although this is changing to a degree. Related to this was the fact that Universities are not always able to deliver on time due to balancing teaching and other commitments, again this was seen to be improving. Other themes included employers not being aware of what the universities could offer businesses, a lack of long term view by businesses in terms of some research and development, identification of employer needs, costs need to be recognised by business and a lack of facilities/premises within Northumberland.

### **4.7 Encouraging and Facilitating Relationships**

This is discussed further in the recommendations section. Themes from employers, universities and other organisations interviewed relating to encouraging and facilitating future relationships are:

- Promotion of the regional universities in terms of collaboration.
- A regular event related to business-university relationship.
- Provision and general information on funding.
- Identification of sector/employers needs in terms of collaboration.
- Improvements in general infrastructure including provision of suitable facilities/premises.

## 4.8 Case Studies

**Case Study 1:** Employer A, involved in biotechnology, has links with the University of Newcastle in terms of research and development. Collaboration stemmed largely from an employers previous contacts studying at Newcastle University. Research and development links also exist with the University of Durham this was through the Regional Technology Centre (RTC) who provided information on suitable partners, funding and patent searches. They also use specific laboratory facilities within the University. The University of Sunderland have also provided specific safety training.

*“It’s too early to gauge what impacts linking up to the universities has had on the company...but they could open up a lot of new areas for us”*

**Case Study 2:** Employer B, involved in manufacturing, has had long term research and development links with the Resource Centre for Innovation and Design (RCID) located within the University of Newcastle. Also links with Northumbria University, University of Durham and Teesside through the Knowledge Transfer Partnerships (KTP’s formerly known as TCS) this was initially through the Department of Trade and Industry.

*“Working with the universities has had a lot of benefits for the business...new technology has been accessed that would not be normally available...difficult putting all the benefits in financial terms though”.*

*“...the regional universities have much to offer businesses within the region...we would hope to continue working with the universities for a long time to come”*

**Case Study 3:** Employer C, involved in engineering, had links with a spin out company from the University of Newcastle who provided contacts within the university. Links include research and development, collaboration and consultancy as well as offering studentships. Also have links with the University of Durham in terms of research and development, studentships and employees attending professional development courses. Many graduates have been retained over the years by the company. Other links include New and Renewable Energy Centre (NaREC), North East Innovation Centre (NEIC), RTC and Entrust; they also have links with a number of universities outside the region mainly offering studentships and employees attending professional development courses.

*“Working with the universities, although not a critical input into the business, is still an important part of the whole”*

**Case Study 4:** Employer D, involved in electronics, has links with the University of Durham via the Centre of Excellence for Nanotechnology, Micro and Photonic Systems (CENAMPS) relating to product development. This relationship was developed from collaboration with another company outside of the region. Other links include material analysis with the University of Sunderland and Northumbria University; provision of professional development training at the University of Newcastle and Northumbria University. Have also offered studentships in the past at Newcastle.

*“...other parts of country are much more developed in terms of businesses working in partnership with universities...look to areas of Oxford, Cambridge and Newbury...we have great universities in the region but have a way to go in terms of collaboration”*



## **5. INTERMEDIATE SUPPORT NETWORK**

ONE North East

As discussed earlier in the introduction ONE has developed an economic strategy for the region for the next 15 years with regular reviews every three years. One element to this is increasing business-university collaboration and the need to support this through the public sector.

*“All public sector support, therefore, needs to improve individuals and businesses relative position on the value chain. This may be done in two key ways...Firstly businesses and individuals may be pushed up the value chain through direct interventions such as the application of best practice techniques in manufacturing or through undergoing training...Secondly businesses and individuals may be pulled up the value chain by new opportunities being created at the high end of the value chain for example via the creation and exploitation of IP, or as a result of the creation of a new spin out business. These new opportunities will create demand and pull people and businesses through, via the natural operation of the market.*

ONE is also directly involved in overseeing the Centres of Excellence within the region. Related organisations include the Council for Innovation and Science who offer advice and actively promote the strategy by working in partnership with industry, commerce, public sector, support organisations, universities and colleges. In addition to this the CIS is also responsible for overseeing aspects of the Centres of Excellence and related exploitation company, NSTAR, as part of this.

In terms of practical support ONE has funded a number of those interviewed directly in relation to R&D and support for university collaboration in the form of the DTI's Grant for Research & Development, Objective 2 and other funding. On a more practical point many had also received advice on funding and intellectual property.

### Centres of Excellence

The C of E's main function is to facilitate technology transfer from the regional universities and other research based organisations to the appropriate industries within the North East. This is carried out via "conditioning" of such technology for utilising as a commercial product. Other activities include securing additional research funding for knowledge transfer and business development, awareness of any related cluster needs, assure suitable facilities and equipment including incubators. Although at the moment relatively university and R&D biased, this may change as associated industries and companies develop. Centres and related areas of focus are NaREC (new and renewable energy), CODEWORKS (software and digital media), CENAMPS (nanotechnology, micro and photonic systems), CELS (health, life sciences, agriculture and environment), CPI (process industries, chemicals, manufacturing). Recently emphasis has shifted slightly by means of focusing on three key areas.

*"...utilise science and innovation to bring about economic growth through the Three Pillars of Healthcare and Life Sciences, Energy and Environment, and Process Industries...key to the success of this are the Region's universities and the Strategy for Success".*

Of those employers interviewed there did seem to be some motion in terms of actual collaboration or initial contact with a number of Centres of Excellence, particularly CODEWORKS CENAMPS and NaREC.

### NStar

Based in the North East, NStar was established as an independent technology venture company to fill an investment gap in the regions R&D base and to strengthen links between business and universities. Working with the Centres of Excellence and other R&D organisations, NSTAR provides expertise, networking opportunities and sources of funding such as the North East Proof of Concept Funding (NEPOC). NEPOC offers funds to technology/science based SME's or activity that results in an SME/spin out company.

#### International Centre for Life/Bioscience Centre

The Centre for Life promotes life sciences including internationally renowned research into genetics, incubating spin out and small companies in bioscience and a functional educational centre. Activities within “the village” range from research, facilitating technology transfer, involvement in areas of health, education and ethics as well as conferences.

#### Regional Technology Centre

The RTC provides advice, training and consultation on intellectual property rights, licensing strategies, innovation funding and venture capital, working with business, universities and the public sector. An example of this is RTC working with the Defence Diversification Agency (DDA) in linking businesses up with the defence sector in terms of exploitable innovation and its technology knowledge base.

#### North East Innovation Centre

NEIC is a technology resource for businesses and individuals, providing advice, consultation, evaluation, development and manufacture of new products and processes. NEIC offer a range of services from simple prototype preparation to more specialised machinery.

NEIC is a leading driver of the PRODEV project which provides assistance to regional SME's in developing innovative products and processes or improving existing ones. NEIC has links with the regional universities, RTC, Regional Centre for Manufacturing Excellence as well as working with a number of Centres for Excellence for example CENAMPS. NEIC is funded from RDF and Single Programme Fund via ONE (NE).

#### North East Business & Innovation Centre (BIC)

BIC offers a wide range of business and technical support for entrepreneurs, SME's to larger companies across the region. This ranges from advice, an on sight product and process development unit to providing offices, industrial units and bioscience labs. BIC work closely with ONE (NE), GONE, Learning Skills Council and Business Link.

### Design Council

The Design Council is a national body, offering a range of information, support services and training programmes to key areas of business and public sector. Current campaign areas include helping manufacturing and technology based businesses realise innovative product design and open new markets. Also involved in developing design skills within universities and schools, enabling students to contribute and develop in a knowledge base economy.

### Knowledge House

Knowledge House is an interface organisation between the regional universities and the business world. It is a joint venture by the universities of Durham, Newcastle, Northumbria, Sunderland, Teesside and the Open University in the North. Services are available to individuals, organisations and businesses including sourcing knowledge and expertise within the universities for idea development and problem solving.

### Business Link

Business Link is the “interface” between new/established businesses and government business support that is specifically targeted at SMEs.

Within the region Business Link Durham and Teesside both have regular events related to businesses-university collaboration supported by organisations such as Teesside Council, RTC, NEIC and Knowledge House.

### Department for Trade and Industry

As one its main objectives, the DTI, plays a major role in support and development of science, engineering and technology skills and resources nationally. An example of this is Faraday Partnerships, in which business and research are brought together, facilitated by intermediate organisations. Funding is provided both from the private sector and other source to bring new products and processes into the market place.

### Entrust

Based in the North East, Entrust offers support to businesses, particularly SME's. Funding is sourced from both Europe and the public sector. Areas of support include business start up, financial services, training. As regards to business-university collaboration Entrust also offer support for graduate placements, R&D, innovation

and entrepreneurship. Management of the STEP programme is one example. Undergraduates and small businesses are suitably matched up where students take on an 8 week paid summer project. STEP is supported nationally by the DTI, Shell UK and locally by Business Link, ERDF and ONE (NE). Other projects include the Graduates for Business programme matching recent graduates with local SMEs and the New Entrepreneur Scholarship (NES) Programme which provides start up funding, mentoring, use of university facilities and networking opportunities. Other organisations involved include the Durham and Chester-le-Street Enterprise Agency, BIC, Princes Trust and the Universities of Teesside, Northumbria, Sunderland and Durham.

#### Research Councils

Nationally, Research Councils UK (RCUK) support research, innovation and training and are the main public investors in fundamental research ranging from engineering to bio-medicine. RCUK work with the Office of Science & Technology (OST), to support academic research. RCUK also support SME's via the Small Business Research Initiative (SBRI) which assists smaller businesses in obtaining contracts from government bodies to conduct R&D.

The following summarises responses in terms of those interviewed wishing to find out more about organisations related to employer-university relationships:

Regional Universities	13
NaREC	9
CODEWORKS	10
CENAMPS	9
CELS	9
CPI	9
Regional Technology Centre	10
International Centre for Life/Bioscience Centre	7
North East Innovation Centre	12
Design Council	11
Knowledge House	12
Business Link	5
NStar	10

## **5.1 Existing Funding and Programmes**

The following list is an example of the types of funding/programmes available in terms of supporting R&D and knowledge transfer, some of which have already been discussed earlier:

DTI Grant for Research & Development (SME's and individuals)  
Knowledge Transfer Partnerships (KTP's)  
DTI Technology Programme  
Industrial CASE  
National Endowment for Science & the Arts  
Linking Innovation Finance & Technology  
LINK (academic/industrial collaboration around key technology areas)  
Faraday Partnerships  
HEFCE (university and colleges)  
The Royal Society  
WISDOM (Biomedical research)  
AHRB  
Marine Transport Technology  
British Academy  
The Leverhulme Trust  
Innovation Relay Trust  
NEAT  
J4B  
R&D tax credit  
European funding streams (ERDF etc)

There are a multitude of other initiatives, programmes, partnerships and funding streams available.



## **6. RECOMMENDATIONS**

The following recommendations are drawn from interviews carried out and areas discussed in previous sections.

### **6.1 Active Promotion of Regional Universities and Other Organisation**

NCC's function in promoting business-university links has so far been more of a responsive role and fairly ad hoc in approach. NCC's main contact with the regional universities has been through referring businesses to Knowledge House.

Many of the employers interviewed felt that there was a need for active promotion of the universities, centres of excellence and related organisations; this was echoed in meetings with the universities and support organisations.

Such promotion could manifest itself in several ways; a regular event within Northumberland where businesses meet universities and intermediate organisations. Many thought it would be important to include themes such as promotion of successful business-university collaboration; a number of employers interviewed indicated interest in contributing to this.

Locations for such events could change over time so as to encourage attendance of businesses in the extremities of the county. Events could be organised as a partnership between NCC, regional universities and support network. Funding for such events could be sourced across the board.

### **6.2 Clarity of Resources Currently Available**

A potential barrier identified by employers interviewed was a general confusion over who to contact within universities and that, despite having existing links with several universities in the region, they were not aware of everything available to them. While there are organisations offering information related to this, often it does not cover the numerous strands that exist. It was felt that a simple more coordinated source of basic information

that pulls together information from both universities and intermediate organisations such as key contacts, resources and facilities available, comprehensive list of funding available and particular sector interest could be beneficial.

### **6.3 Development of a Dedicated Website**

This is related to the previous two issues; while employers indicated a need for more information regarding university collaboration many wished to avoid the potential for “additional paper clogging the office” therefore a number suggested that the development of a dedicated website would be a more suitable solution to this. A well designed and focused website which avoids “lazy” links and focuses on the Northumberland picture within the region could be a great tool enabling businesses to access the correct information and research capabilities within the regions universities at a touch of a button.

There are a few fine examples of such websites within other regions of the country, for example Knowledge North West, although on a regional level have developed a clear and focused resource for businesses and support organisation within the area. The site pulls together a great deal relating to businesses linking up with regions universities and colleges including:

- Comprehensive and clear list of funding opportunities for small businesses.
- Information highlighting universities expertise and capabilities within key sectors or clusters.
- Enquiry service which are posted and updated on screen.
- Examples of success stories.
- Monthly Newsletter.
- Events list.

NCC and business support partners could look into developing a similar website based service within the county.

### **6.4 Database/directory**

Most of the universities felt that a directory or database of Northumberland employers would be extremely valuable in assisting them in developing links with employers. More specifically the development of a R&D directory, identifying universities and associated organisations expertise, where businesses can access consultants and research undertaken by the university from a searchable database.

## **6.5 Developing Business Partnerships and Associations**

A number of those interviewed suggested the formation of business/university partnerships or association offering advice and promoting successful knowledge transfer, innovation and training. NCC could help foster such partnerships or associations.

## **6.6 Partnership Working**

NCC could foster its own links with the regions Universities and associated organisations such as NaREC in order to benefit from research which can be done to identify business clusters and networks. Exchange of information between organisations such as InfoNet's employer database and information Universities have on growth sectors could be used to identify important business clusters. Developing partnerships could facilitate relationships between the universities and businesses, supporting local business growth and offering the universities a direct link to employer needs.

University links could be developed either through specific points of contact for the particular institution in question or via Universities for the North East. NCC could also forge links with new developments within the Region for example Newcastle Science City.

## **6.7 Assistance with Funding**

Lack of funding or information on what funding is available was felt to be an issue with a number of employers. Many felt that some level of assistance with funding or even basic clarification of what funding is available to businesses would be a step in the right direction.

## **6.8 Support and Actively Encouraging Future Development**

Infrastructure development that would help facilitates business-university interaction within Northumberland. Both universities and businesses suggested that NCC could actively support or encourage future developments such as a science park, new technology institute, Northumberland Centre for Advanced Industry. In addition to this it was flagged that the provision of suitable premises such as "follow on" space for established university spin out companies or an incubation site for new spin out

companies may go some way in ensuring that "...Northumberland shares in the resources available in the regions universities and Centres of Excellence".

## **6.9 Further Areas of Research**

A comprehensive audit of existing links within Northumberland could be conducted working in partnership with the universities and support organisations. The audit could include:

- Identification of specific sector requirements within Northumberland in terms of R&D and technology transfer and training.
- Identification of non-collaborating SME's that have potential to gain benefits from working with universities whether it is cutting edge research and development, improvement in productivity or improving employee's skills.
- Identification of existing Northumberland businesses that may benefit from involvement with the Centres of Excellence whether they are on the "higher" technological end or "lower" supply chain.

## **APPENDIX: INTERVIEW QUESTIONS**

Does your company have any links with:

Any of the 6 North East Universities (please specify and in which department)

Any other Universities (please specify)

Any of the Centre of Excellence such as NaREC, CODEWORKS, CENAMPS, CELS  
CPI (please specify)

Other Research & Development focused organisations e.g. Regional Technology  
Centre, International Centre for Life/Bioscience Centre, North East Innovation  
Centre, Design Council

What are/has been your relationship with each of the organisations listed above

How did each of the relationships develop?

Do other organisations support/facilitate relationships in any way? If so how?

What impacts have links had on the success of your business?

Are you aware of other resources/skills/training that the regional Universities offer  
that may be of relevance to the development of your business?

Are there any barriers to your business maintaining its relationship with the  
organisation you listed earlier or developing new links to alternative organisations in  
the future?

What more can be done to facilitate successful partnerships?

How can Northumberland County Council and the wider business support network help to develop links between local businesses and Universities?

Any other views or comments?

Would you be interested in finding out more about the activities of?

Regional Universities

NaREC

CODEWORKS

CENAMPS

CELS

CPI

Regional Technology Centre

International Centre for Life/Bioscience Centre

North East Innovation Centre

Design Council

Knowledge House

Business Link

NStar

We would like to include some cases studies within our final report. If appropriate, would we be able to use your organisation (anonymous if necessary) to illustrate the types of relationship that currently exist between businesses in Northumberland and HEIs?



## The Northumberland Information Network

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### The Northumberland Information Network is a partnership between:

ONE North East, Northumberland Strategic Partnership, Northumberland County Council, Northumberland Learning & Skills Council, Business Link for Northumberland, Connexions, Northumberland Care Trust, Northumberland CDRPs, Northumberland DAAT and GO-NE.





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