

A Report on Higher Education / SME Engagement in the Yorkshire and Humber Region – presented as part of the Yorkshire Universities Technical Assistance Project

Sean Kelly and Sue Rainton

University of Leeds

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1. Executive Summary

1.1 This report has been commissioned by Yorkshire Universities as part of the Yorkshire Universities Technical Assistance (YUTA) Project under the following terms of reference:

1. To review the Humber, Leeds City Region and York, North Yorkshire and East Riding LEP ESIF Plans and to identify the opportunities for Yorkshire Universities' partners to contribute to the delivery of the European Structural Investment Funds (ESIF) Plans with the focus on higher education / SME engagement;
2. To identify and map all HE/SME projects supported by the 2007-13 Yorkshire and Humber ERDF Programme;
3. To identify and summarise other (non ERDF) SME support projects operating at YUTA partner universities;
4. To review sources of national (e.g. HEFCE, TSB, RCUK) and European (e.g. Horizon 2020) funding opportunities relevant to HE/SME engagement;
5. To identify good practice in relation to YU partners HE/SME engagement and make recommendations as to how universities can best utilise the 2014-2020 EU Structural Funds to support growth in local SMEs.

1.2 Interviews were held with YUTA partners' KT Directors to gather data on the previous 2007-2013 ERDF Programme and to investigate partner aspirations for the 2014-2020 ESIF Programme.

1.3 This data was then placed into context with the Humber LEP, Leeds City Region LEP and the York, North Yorkshire and East Riding LEP's published ESIF strategy documents. Further research was undertaken into SMEs and innovation within the Yorkshire and Humber region to add more depth to the report.

1.4 Conclusions have been drawn as to suggested ways forward to allow YUTA partners to maximise the benefit of their involvement in the 2014-2020 ESIF Programme.

2. Background to the Project

2.1 Background and Terms of Reference to the Yorkshire Universities Technical Assistance Project

2.1.1 Following the dissolution of Yorkshire Forward in 2012, the Yorkshire and Humber Region (Y&H) was split into four separate Local Enterprise Partnerships (LEPs), namely Humber LEP, Leeds City Region LEP, Sheffield City Region LEP and York, North Yorkshire and East Riding LEP. The LEPs are locally owned partnerships between Local Authorities and businesses which play a central role in determining local economic priorities and undertake activities to drive growth and create employment.

2.1.2 As part of its European Regional Development Fund (ERDF) part-funded Technical Assistance project, Yorkshire Universities has requested this report from The University of Leeds to examine its contributing members' past performance, future priorities and plans for SME engagement in the region. All of the Yorkshire Universities' members are contributing to the delivery of the Technical Assistance project with the exception of Sheffield Hallam University and the University of Sheffield.

2.1.3 The overarching question being addressed in this report is *"how can universities better support growth in SMEs?"* The terms of reference are as follows:

1. To review the Humber, Leeds City Region and York, North Yorkshire and East Riding LEP ESIF Plans and to identify the opportunities for Yorkshire Universities' partners to contribute to the delivery of the ESIF Plans with the focus on higher education / SME engagement;
2. To identify and map all HE/SME projects supported by the 2007-13 Yorkshire and Humber ERDF Programme;
3. To identify and summarise other (non ERDF) SME support projects operating at YUTA partner universities;
4. To review sources of national (e.g. HEFCE, TSB, RCUK) and European (e.g. Horizon 2020) funding opportunities relevant to HE/SME engagement;
5. To identify good practice in relation to YU partners HE/SME engagement and make recommendations as to how universities can best utilise the 2014-2020 EU Structural Funds to support growth in local SMEs.

2.2 Policy Drivers for SME engagement

2.2.1 Small and Medium Size Enterprises (SME) by EU definition are companies that have less than 250 employees, turnover of up to €50m or a balance sheet total of less than €43m.¹

2.2.2. SMEs form a large proportion of the overall UK economic activity. They form 99.9% of private sector businesses, provide 59.3% of private sector employment (14.4m people) and have an estimated turnover of £1,600 billion or 48.1% of the private sector total.² SMEs have similar importance within Yorkshire and Humber, where they provide 1.1m jobs (56% of total private sector employment) and 52% of private sector turnover (over £1bn).

2.2.3. The UK Government has been keen to encourage links between the nation's higher education sector and businesses, especially SMEs. The recent Witty Review stated quite clearly that "*Universities have extraordinary potential to enhance economic growth.*"³ Government has provided a number of funding streams to encourage and permit HEIs to connect and work closer with private sector businesses, including SMEs, most notably the Higher Education Innovation Fund (HEIF).

2.2.4 At a regional level funding has also been historically available. Up until its dissolution Yorkshire Forward, as the regional development agency, made funding available to help universities work with local companies, especially SMEs. This funding was supplemented by contributions from the European Structural Funds, most notably European Regional Development Funds (ERDF).

2.3 Background to European Structural Investment Funds (ESIF)

2.3.1 European Structural Investment Funds (ESIF) are aimed at reducing disparities in wealth, income and opportunities in the sub-national regions of EU Member States. The 2007-2013 Programme was administered by Yorkshire Forward until its dissolution in July 2012 when management passed over to the Department of Communities and Local Government (DCLG).

2.3.2. The 2014-2020 ESIF Programme will bring together the two main structural funds, the European Regional Development Funds (ERDF) and European Social Fund (ESF), with part of the European Agricultural Fund for Rural Development (EAFRD). The intention in bringing the funds together is that it will allow a greater

¹ These thresholds are for autonomous SMEs. If a partner a linked enterprise then some or all of the linked companies' data will need to be included to define if a company can be regarded as an SME. See European Commission, *The New SME Definition: User Guide and Model Declaration*.

² BIS, *Business Population Estimates for the UK and Region 2013* (23 October 2013)

³ *Encouraging a British Invention Revolution: Sir Andrew Witty's Review of Universities and Growth* (October 2013)

degree of flexibility in the way that the money is spent, for example by allowing innovation and skills in a particular sector to be addressed together in a single project.⁴

2.3.3. Within England all LEPs have designed and submitted to government strategies on how they intend to best use ESIF funding to deliver growth in their local region.⁵ However, LEPs will not be directly managing or administering the funds themselves, the responsibility for this will remain with DCLG. Early indications are that a two-stage project approval process will be administered jointly between LEPs and DCLG. Stage 1 (Outline Business Plan) will be a strategic gateway, handled by LEPs to ensure there is a strategic fit between the agreed LEP investment programme and individual project proposals. Stage 2 (Full Business Plan) will be managed by DCLG and will cover technical aspects of project negotiation and contracting.

2.3.4 Within the Yorkshire and Humber region the LEPs have the following ESIF budgets allocated:

Table 1: Y&H LEP ESIF Budgets

Humber LEP	£87.67m
Leeds City Region LEP	£334.95m
Sheffield City Region LEP	£176.64m
York, North Yorkshire and East Riding LEP	£83.4m

2.3.5 The three LEPs being concentrated on as part of this YUTA project are Humber, Leeds City Region (LCR) and York, North Yorkshire and East Riding. All three have identified universities as key delivery partners in their ESIF strategies. Table 10, Table 11, Table 12 (Appendices 2 – 4) give a breakdown of the ESIF budgets for the three LEPs. Universities are most likely to be concerned with the objectives around Innovation, SME Competitiveness and Skills with a lesser interest in Low Carbon.

2.3.6 Whilst the three LEP strategy documents are structured differently, some common strands can be identified for the purposes of this report. All of these relate back to the European Commissions' 'thematic objectives' (shown in the LCR LEP's budget breakdown in Appendix 3 and all contain clearly identified priority areas for investment of ESIF funds. The individual LEPs have set the following as their overarching priorities for ESIF investments:

⁴ HM Government, Structural And Investment Fund Strategies: Preliminary guidance to Local Enterprise Partnerships (April 2013)

⁵ <http://europeanfundingnetwork.eu/news/how-leps-are-engaging-with-the-sector> links to all of the LEPs' published ESIF submissions to government

Priorities (Humber)

1. The SME growth & innovation programme
2. The skills programme
3. The sustainable communities & innovation programme
4. The climate change & environmental protection programme
5. The infra-structure programme

Priorities (Leeds)

1. Unlocking growth potential of business in key economic sectors
2. Making the most of a skilled and flexible workforce
3. A resource smart city region
4. Creating the environment for growth

Priorities (York)

1. Profitable and ambitious small & micro businesses
2. Global leader in food manufacturing, agritech and bio-renewables
3. Inspired people
4. Successful and distinctive places
5. A well-connected economy

2.3.7 These strategic priority areas are then broken down into what can be deemed core activities. Of these core activities the ones of most interest to the region's HEIs are shown in Appendix 5. Table 7 shows how the strategic areas for HEI engagement as identified by the KT Directors cross reference with the LEP priorities and core activities.

2.4 Other non-ERDF funding sources for SME engagement

2.4.1 Alongside ESIF there are other funding sources that universities can draw upon to support and engage with SMEs. These funding sources can be split into two distinct categories, namely funds that allow SMEs to be supported on single projects and funds that can be used to support programmes of multiple SME engagement.

2.4.2 Funds that can be used to support SME single project engagements are usually applied for in partnership with a company or consortium of companies. They will normally have a defined scope and the funding will be intended to deliver outputs related to achieving these. Examples include TSB SMART awards, TSB Innovation Vouchers, Horizon 2020 projects (such as the SME Instrument, the Research and Innovation Actions and the Innovation Actions) and Knowledge Transfer Partnerships (KTPs).

2.4.3 There are other funds that can be used to target support programmes that seek to engage with multiple SMEs on multiple projects sometimes in a specified technology or market sector, or in a specific geographical area, or by using a particular defined method of engagement. These engagements are often focussed upon helping the generic economic development of regions or industry sectors, rather than on achieving certain specific set technology outcomes. Funding sources include HEIF⁶, Horizon 2020 (such as the Coordinating and Support Actions), HEFCE Catalyst Fund⁷ and HEFCE University Enterprise Zones⁸.

2.4.4. Universities have used a mixture of both external funding in 2.4.3 above and their own core funding as match for ESIF projects. Core funding from universities can be either in the form of a cash contribution towards the match funding or in-kind support most commonly through staff time which is evidenced using timesheets. In ESIF terms, in-kind support is considered to be equivalent to a cash contribution.

2.4.5 There are some rules that HEIs should be aware of regarding match funding for ESIF activity. Firstly, for in-kind support which is based on staff time, the activities being performed by staff must adhere to the eligibility criteria set out in, the project agreement. Secondly, match funding cannot come from other sources of EU funding; though there are moves to amend this for the 2014-2020 Programme. Thirdly, the proportion of match required can differ from project to project depending on several factors for example the geographical location of the company being assisted. Table 2 below shows the proportion of match to ESIF as an intervention rate.

⁶ <http://www.hefce.ac.uk/whatwedo/kes/heif/>

⁷ <http://www.hefce.ac.uk/whatwedo/invest/funds/cf/>

⁸ <https://www.gov.uk/government/publications/university-enterprise-zones-pilot-application>

3. 2007-2013 ERDF Programme and SME Engagement

3.1 Key Facts on Contracted Projects

Some data analysis has been carried out on the publically available information for the current ERDF Programme, supplemented by information provided as part of the interviews with YU KT Directors. Table 2 looks specifically at direct HEI involvement in the 2007-2013 Programme and shows that by far the largest commitment of ERDF was to Sheffield and York, both of whom have used structural funding to support large capital developments.

Table 2: HEI distribution of ERDF funding 2007-2013

HEIs only		ERDF	match	TOTAL	Priority	intervention rate
Science City York		£21,008,978	£20,619,930	£41,628,908	2	50.47%
Sheffield Hallam		£2,507,633	£2,357,265	£4,864,898	1	51.55%
University of Bradford		£6,923,096	£6,012,932	£12,936,028	1	53.52%
Uni of Huddersfield		£7,424,251	£5,365,801	£12,790,052	1 & 2	58.05%
University of Leeds		£6,891,389	£5,318,108	£12,209,497	1	56.44%
University of Sheffield		£38,014,203	£45,328,995	£83,343,198	1	45.61%
University of York		£1,801,913	£1,013,576	£2,815,489	1	64.00%
most funding / projects	Sheffield	£38,014,203	£45,328,995	£83,343,198		45.61%
largest project	York	£22,810,891	£21,633,506	£44,444,397		51.32%
best intervention rate	Huddersfield	£7,424,251	£5,365,801	£12,790,052		58.05%
	Bradford	£6,923,096	£6,012,932	£12,936,028		53.52%
	Leeds	£6,891,389	£5,318,108	£12,209,497		56.44%
	SHU	£2,507,633	£2,357,265	£4,864,898		51.55%

3.2 ERDF Output analysis

Following on from this work some rough analysis was carried out looking at ERDF outputs vs project expenditure for Y&H located HEI-led projects. It was found that, in general there have been two trends within the 2007-2013 programme contracted projects. More favourable output terms have been achieved:

- 1) by early to contract projects; and
- 2) by contracts that included a large amount of capital expenditure in addition to revenue.

3.3 Learning Outcomes

During the course of the interviews KT Directors were asked what, in their opinion, could be seen as the main learning points from previous SME engagement activities.

From these responses the following table has been compiled; responses have been ranked dependent on how many interviewees mentioned a particular issue.

Table 3: Lessons Learnt from Previous SME Engagement

What Worked Well	No.	What Could Be Improved	No.
SMEs can be attracted by the offer of subsidised work – useful for initial relationship building	2	Increased time commitment to deliver SME engagement, SMEs are more time consuming to work with than LCs / need BDM time in project	4
HEI left with useful knowledge legacy of regional SMEs	1	Offering 'free' support / activities to SMEs can de-value potential 'paid for' follow up engagements – encourages 'grant dependency' within the regional SME community	4
Projects can help to form good connections with other regional stakeholders	1	Market demand doesn't always align with HEI 'supply' / companies don't need what academics want to provide	4
HEI able to build / refurbish key facilities which otherwise might not be possible	1	Over complexity in project planning & operational delivery / excessive paperwork	3
Referring enquiries to other project partners can work well as a risk management tool to ensure SME needs are met	1	Alignment of ERDF outputs with academic drivers / SME engagement hard sell to academics – projects need to engage academics in development	3
Funded projects can provide a positive contribution to the HEI 'brand'	1	Companies, especially SMEs, don't like paperwork which means that HEI has to pick up all the administration	2
Working with SMEs can inform teaching	1	Not enough 'high growth potential' SMEs in the region – can lead to competition between HEIs	2
SME engagement can improve student employability / placement opportunities	1	Mis-match between ERDF requirements & HEIs existing systems (especially financial)	1
Working with local companies is good to embed HEIs in their local community	1	Difficult to generate income for the HEI from interactions with SMEs	1
Positive local publicity helps with student recruitment	1	Schemes are difficult to administer	1
Projects can add value to existing relationships	1	Availability of staff to undertake specific tailored SME interventions which are identified as a project develops - as individual staff cannot be fully identified at contracting	1
HEI engagement works best when it is business led	1	A lot of business interactions take place in devolved networks which makes reporting of value & impact difficult	1

Projects where there is less project demand for SMEs to provide information / complete paperwork	1	Length of time to contract	1
Engaging partners from outside the HEI sector – not in competition & not focused on the same company market	1	SME definition not useful, SMEs vary greatly & so need different treatment	1
Most creative SMEs are grateful for the support	1	Level of SME understanding & absorptive capacity limits their ability to engage with HEIs	1
Having tight, focused programme of activity / articulating a clear offering	1	Finding ERDF match, especially as HEIF allocations can be difficult to forecast & may decrease over the next few years	1
		'one size fits all' approach to collaborative HEI projects doesn't work	1
		Lack of provision for private-sector funding	1
		Level of culture change originally envisaged, in staff working with regional SMEs, not achieved	1
		Few regional SMEs are 'innovative' in the sense of the word used in ERDF planning	1
		Large number of owner-only low level 'content' businesses in the region that are not interested in working with HEIs	1
		Need to manage SME expectations better	1
		SMEs are naturally suspicious so trust has to be earned	1
		HEIs have niche academic specialisms which can be hard to make broad enough to develop into ERDF projects	1

3.4 From the interview text the following points can be picked out to further articulate and demonstrate issues shown in Table 3:

- The *“Devil is in the Detail”* – it came across very clearly that there is a need to ensure contract negotiations are carried out with this firmly in mind. Audit requirements for the 2007-2013 Programme were tightened up significantly from the 2000-2006 Programme and a lack of clarity around Article 13⁹ requirements at contracting stage has led to problems for 'early to contract' projects, which must

⁹ Article 13 is a local audit of project activity carried out by DCLG on a regular basis with live projects. Defined in the ERDF National Guidelines as “A monitoring visit carried out in accordance with the requirements set out in Article 13 of regulation of Commission Regulation 1828/2006. During the visit, the project will be assessed in terms of delivery, spend and compliance with national and European requirements, including procurement and publicity. Expenditure and outputs declared in a claim will be verified by making checks back to original invoices, bank statements and other project records.”

be avoided in the new Programme. A clear procedural framework should be established at the start of negotiations so that all the collaborating partners are aware what is required from them as well as to ensure that their aspirations are fully articulated.

- projects since. There is a need to ensure that the cost of administering a project is fully covered since alterations to projects after contracting can be costly and difficult to accommodate. The project should also factor in a risk/benefit analysis and risk management procedures to avoid incurring unexpected costs later on. ;
- New projects should be market-led. This means that new projects will need to be able to prove that there are an appropriate number of target SMEs within the LEP's geographic area to give the project a realistic chance of achieving its contract outputs;
- Successful project delivery / SME engagement is ultimately dependent on the brokerage and building of good working relationships between stakeholders at the HEI / SME interface. . The ability to focus staff members on developing SME projects and engaging effectively with HEI academics therefore needs to be built into projects;
- Locating 'high-growth potential' SMEs – there needs to be a recognition of the fact that there is not a high concentration of innovative SMEs with high-growth potential located within the region that are at the correct point of company evolution / maturity to gain value from working with HEIs. An important feature of future project development should therefore be to find ways of identifying the best time to engage with companies based on their development stage, absorptive capacity & business maturity. There is further discussion on this in Section 4 below;
- Private-sector funding will become increasingly important and should be examined for future project development purposes;
- Small HEIs should use their size to be more nimble than the larger HEIs;
- Industry accreditation is particularly important for projects delivering elements of CPD to SMEs.

4. SMEs and Innovation in Yorkshire and Humber

4.1 SMEs in Yorkshire and Humber

4.1.1 In order to provide appropriate HEI support using ESIF for regional SMEs, it is useful to look at both the data on SMEs in the Yorkshire and Humber region and on

levels of innovation in the region. This will allow YUTA partners to develop an understanding of the type, size and number of SMEs in the region, the state of innovation in the region's businesses and allow partners to consider whether there is enough of a market for different ESIF projects.

4.1.2 Anecdotally HEI staff experienced in working with regional SMEs have often commented on the difficulty of locating high quality, innovation intensive SMEs in the right sectors who are likely to engage in collaborations with the university knowledge base. As will be shown in the following tables, whilst the overall number of SMEs in the region may be substantial, the number that are realistically going to have the right capacity; be in the appropriate technology or market sector; undertake research that can be supported by the knowledge base; and have the desire and willingness to work with an HEI partner is very low.

4.1.3 Any planned regional projects using ESIF funding to work with regional SMEs should be structured in such a way so as to ensure that there is an appropriate level of available companies to allow them a reasonable chance of success in achieving contract outputs. Planned project activity should also fit well with the expertise and aspirations of the participating universities. This report makes some recommendations with regard to minimising these risks which should be considered during the project planning phase.

4.1.4 Figure 1, Figure 2 and Table 4 show the number of SMEs in the region by the number of employees, turnover and a percentage of SMEs by each size category. In 2013, the total number of private sector businesses in all industries in the Yorkshire and Humber region is 353,710¹⁰ and of these 99.9% are classified as SMEs by number of employees,¹¹ which mirrors the figure for the whole of the UK. Nearly 75% of SMEs in the region do not employ anyone besides the business owners and only 0.72% of regional SMEs have more than 50 staff. This compares with the UK national figures of 75.31% of SMEs with no employees and 0.7% of SMEs with more than 50 staff.

¹⁰ This figure and all of the subsequent data is taken from The Department of Business, Innovation and Skills, *Annual Business Population Estimates for the UK and Regions 2013* (5 November 2013) which can be found at <https://www.gov.uk/government/publications/business-population-estimates-2013>.

¹¹ The EU definition of SMEs includes three elements. The first is that to be an SME a company must have less than 250 employees. The second element relates to turnover/ assets and the third to ownership. The data here relates solely to number of employees as there is no easily available data source that allows us to take a strict definition of what would constitute an SME for ERDF purposes.

Figure 1: SMEs in all industry sectors

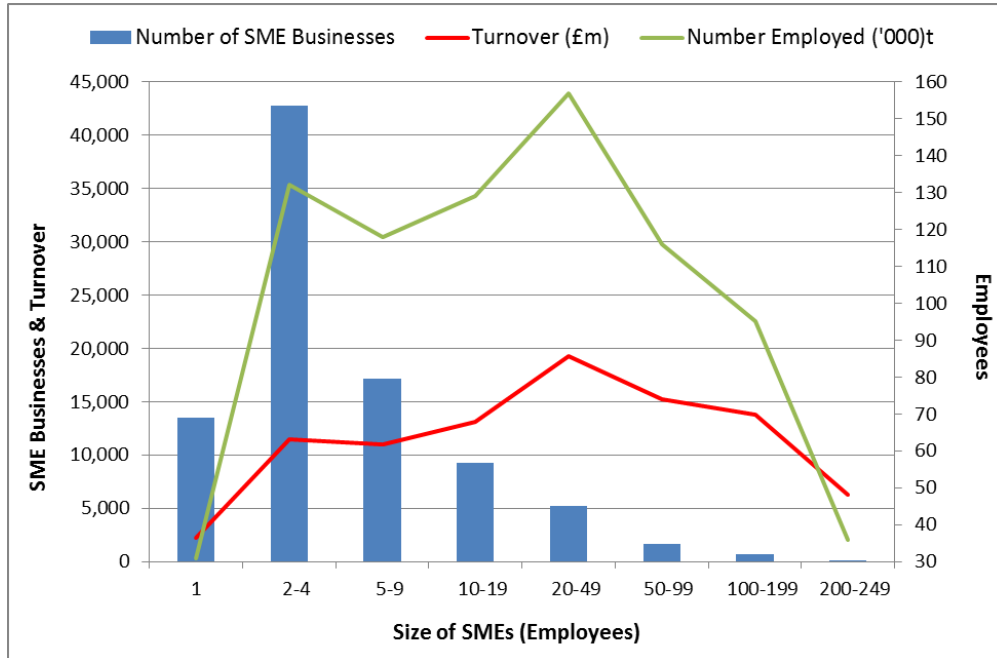


Figure 2: SMEs by size (employees)

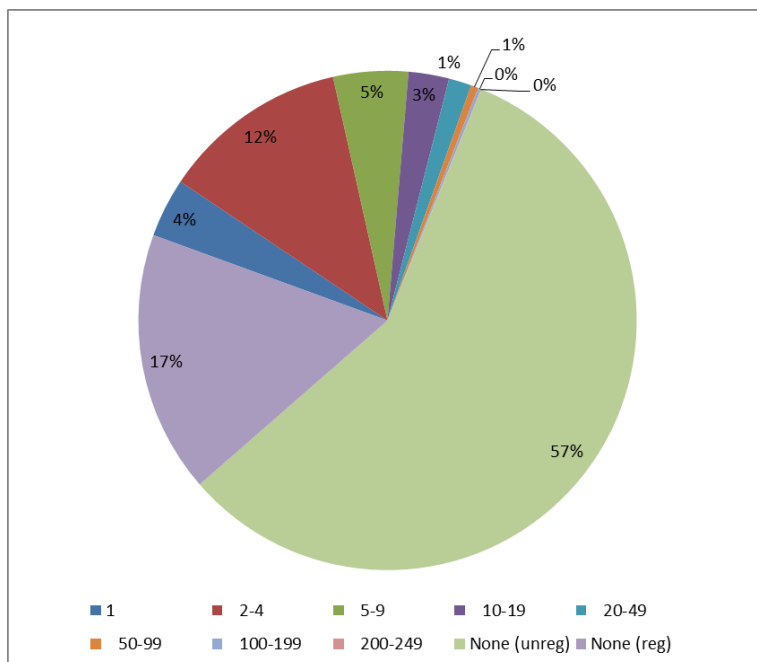


Table 4: Number of SME Businesses in the Private Sector in Yorkshire

Number of Registered Employees	Number of SME Businesses	SMEs by Size (Employees)	Number Employed ('000)t	Turnover (£ m)
With no employees (unregistered)*	202,895	57.44%	222	6,471
With no employees (registered)*	59,905	16.96%	69	6,390
1	13,525	3.83%	31	2,188
2-4	42,745	12.10%	132	11,509
5-9	17,150	4.86%	118	11,033
10-19	9,300	2.63%	129	13,136
20-49	5,180	1.47%	157	19,266
50-99	1,695	0.48%	116	15,225
100-199	685	0.19%	95	13,747
200-249	155	0.04%	36	6,281
TOTAL	353235	100%	1,105	105,246

* Businesses with no employees can either be 'registered' for either VAT and/or PAYE or are 'unregistered' (because they operate in a VAT exempt industry or they operate below the VAT threshold and do not operate a pay-as-you-earn scheme)

4.1.5 Looking at Table 13 and Table 14 (Appendix 6 and 7) which provides the number and percentage of SMEs by size in each market sector, it can be seen that in all sectors, with the exception of Accommodation and Food Services, the majority of SMEs have no employees outside of the business owner. This is true even in sectors such as manufacturing where it would be expected that there would be a higher number of SMEs who employ staff. The data also shows that there is a low number of large SMEs (those employing more than 50 staff) in all market sectors and there is only one market sector, manufacturing, with more than 3% of companies that employ more than 50 staff.

The data clearly highlights sectors that may be more easily supported and which could therefore provide future projects that have a greater potential of achieving contract outputs.

4.2 Innovation in Yorkshire and Humber

4.2.1 On many of the indicators of innovation, Yorkshire and Humber does not perform well in comparison to other UK regions. It must also be borne in mind that as a country the UK can also be seen as underperforming in R&D in comparison with other countries.

4.2.2 According to the 2013 EU Industrial Scoreboard, UK companies do not perform as well as companies from the USA, Japan, Germany and France. Within the EU the UK has also not seen the same level of recovery in company R&D as experienced in other countries with the UK growing R&D investment by 0.5% compared with Germany's 11.6%, France's 2.3%, Italy's 18.3% and Ireland's 10.7%.

4.2.3 Looking at differences in registered intellectual property (IP) is one way of comparing the level of innovation between UK regions. Before presenting the findings, it is worth noting that the data has been obtained from reports published by the Intellectual Property Office (IPO)¹² and that Table 5 and Table 6 only represent the first applicant named on an IP application. The region can only be identified if a valid postcode was given at the time of application however many companies file their IP applications from a central head office location, which may obscure the region where the IP was generated.

4.2.4 Table 5 shows the number of patents filed and granted by region in 2012 and is ordered on the basis of the number of patents granted per thousand population. In this respect Yorkshire is joint with the North West at 0.034

4.2.5 In 2012-13 the number of UK patents filed by Yorkshire HEIs was 129.¹³ 54 of these were granted which means the region's universities account for 12.6% of filed patents and 29.7% of granted patents.

Table 5: Patents Filed and Granted by Region (2012)

Region	Patent Applications Filed	Patent Applications Granted	Applications Filed per '000 Population	Applications Granted per '000 Population
South West	1398	413	0.262	0.077
South East	2865	614	0.328	0.070

¹² Intellectual Property Office, *Facts and Figures 2011 and 2012 Calendar Years* (April 2013)

¹³ Data from HE-BCIU Survey Part B Table 4. The figures for UK Patents has been calculated by subtracting the number of overseas patents from the total number of patents. There is no other way of comprehensively identifying the number of patents filed and granted by UK universities as the IPO does not have a means of capturing this data.

East of England	1821	360	0.308	0.061
London	2522	375	0.304	0.045
West Midlands	1130	219	0.200	0.039
Wales	519	107	0.169	0.035
Yorkshire	1025	182	0.193	0.034
North West	1426	239	0.201	0.034
East Midlands	860	130	0.188	0.028
North East	358	58	0.138	0.022

4.2.6 Other registered IP that can be used as leading indicators of innovation include trademarks and design rights, though in this regard Yorkshire performs poorly as shown in Table 15 and Table 16 (Appendix 8).

4.2.7 Private sector investment in research and development (R&D) is also comparatively low in Yorkshire. Yorkshire spends less and employs fewer staff in R&D than the majority of UK regions as shown in Figure 3, Figure 4 and Figure 5 below (also Map 1 and Map 2 in Appendix 9).¹⁴ Weighting these figures for the English regions by population shows that as to be expected, there is a correlation between R&D expenditure and R&D employment. It also shows that by population size, Yorkshire like the North East is underperforming.

¹⁴ Data from Research and Development in UK Businesses, 2012 Datasets
(<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-329762>)

Figure 3: R&D expenditure & employment

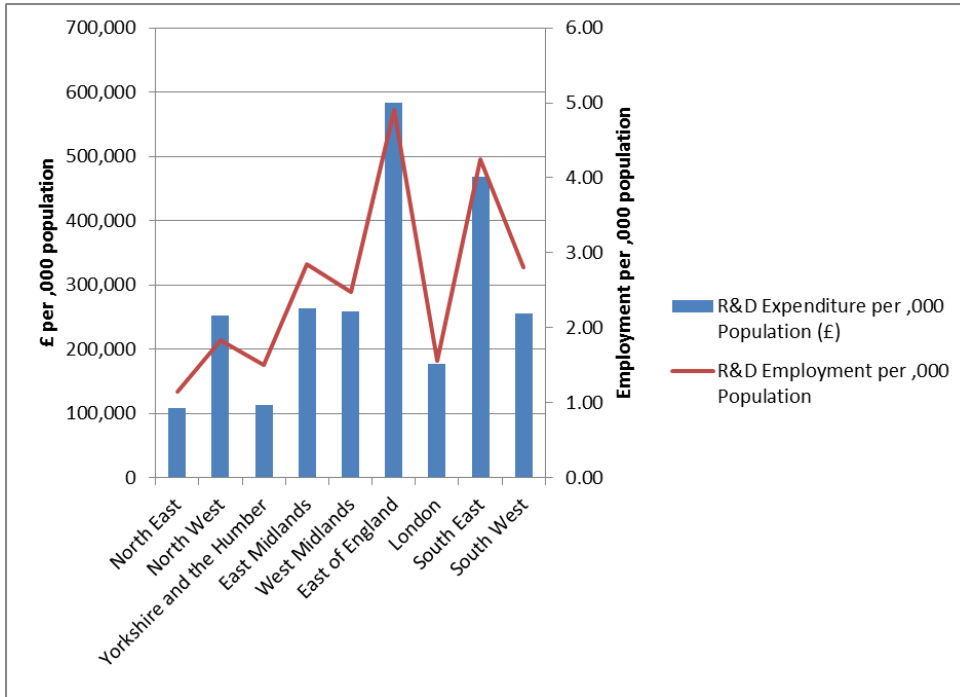


Figure 4: Expenditure on R&D Performed in UK Businesses by Region (2012)

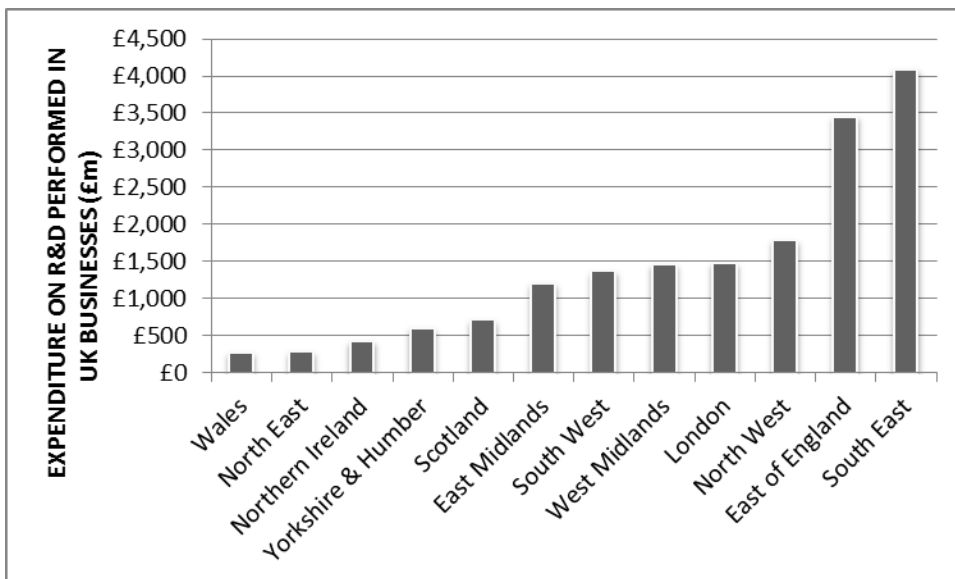
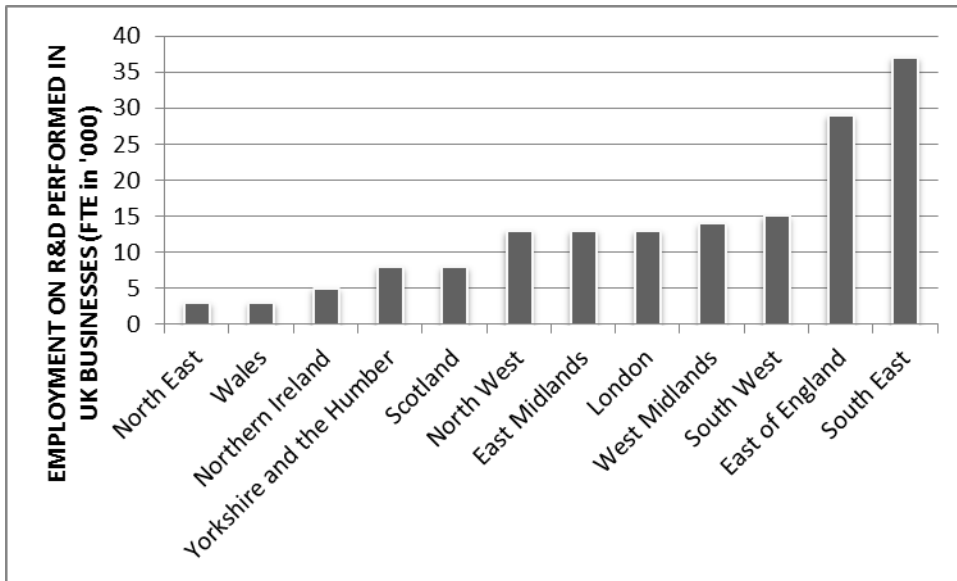
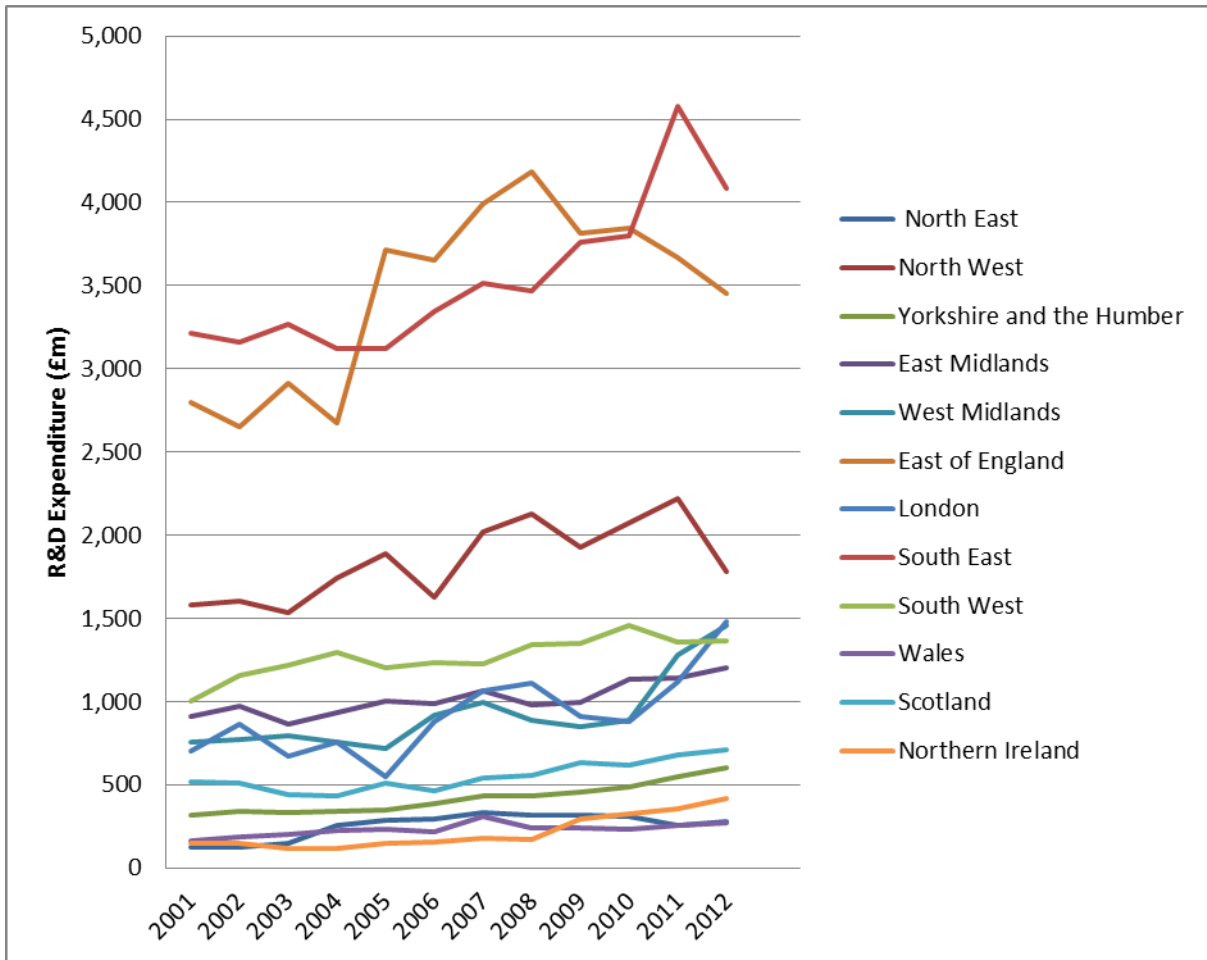


Figure 5: Employment on R&D Performed in UK Businesses by Region (2012)



4.2.8 This follows a historical trend within the region, where spending on R&D has remained consistently low since 2001 despite other regions showing increases as shown below in Figure 6:

Figure 6: R&D Expenditure by Region 2001-2012



35.6% of Yorkshire and Humber companies would describe themselves as innovation active, in comparison to the national average of 36.8%.¹⁵ However, on average companies in Yorkshire spend 56.4% of their innovation expenditure on

¹⁵ BIS, *UK Innovation Survey 2011 (2012)* Table 1. Innovation active describes companies that engages broadly in activity including any of the following introduction of new product/ service; engagement in innovation projects; new or improved forms of organisation, business structure or practices; activities in areas such as internal R&D, acquisition of external knowledge or equipment linked to R&D.

internal R&D and only 0.9% on acquisition of external R&D. This compares with the UK national averages of 33.9% on internal and 23.8% on external R&D.¹⁶

4.2.9 External collaboration on innovation seems to be limited amongst companies in the region. In a survey undertaken by Leeds City Region, only 8% of respondents sought external R&D support and of these 28% collaborated with a university while 42% with an external company.¹⁷

4.3 Barriers to Innovation

4.3.1 Evidence shows a perception within companies (especially SMEs) that significant barriers to innovation exist, across the region. The UK Innovation Survey identified barriers that were considered by respondents to be 'high'.

Table 6: Barriers to Innovation (UK Innovation Survey)

Potential Barrier to Innovation	Y&H companies	UK Averages
Excessive perceived economic risks	17.3%	20.8
Direct innovation cost too high	22.5%	20.7
Cost of finance	21.4%	24.7
Availability of finance	21.8%	24.8
Lack of qualified personnel	6.9%	7.5
Lack of information on technology	3.4%	2.5
Lack of information on markets	3.1%	2.8
Market dominated by established businesses	6.6%	10.4
Uncertain demand for innovative goods or services	9.4%	9.0
UK Government and EU regulations	7.4%	9.7

4.3.2 Throughout the KT Directors' interview process some of these perceived barriers were cited as being prevalent within Yorkshire & Humber SMEs, specifically:

- the lack of resources (both financial and personnel); and
- the lack of knowledge, both of the market and available technologies.

¹⁶ In Y&H the remainder of innovation expenditure is made up as follows (national averages in brackets): Acquisition of capital 39.7% (30.3%); Acquisition of external knowledge 0.5% (1.5%); Training for innovative activities 0.4% (1.7%); All forms of design 1.2% (4.5%); Market introduction of innovations 1% (4.4%).

¹⁷ Simon Hooten, *Where Are We At? Leeds City Region's Innovation Performance* Presentation at the LCR event Roadmap to a More Innovative Leeds City Region (26 November 2013) <http://www.slideshare.net/rolandharwood/leeds-city-region-stakeholder-workshop-event-26th-november-2013>;

4.4 Summary

4.4.1 From this brief overview the businesses in Yorkshire can predominately be characterised as small with a culture of low R&D investment. Those investing in R&D are mostly working independently and allocate most of this to internal R&D.

5. Future Project Ideas

5.1 Idea Generation

As part of the interview process with KT Directors each YUTA member organisation was asked about its future plans for SME engagement, specifically any plans to exploit ESIF funding. The following project ideas emerged from these discussions.

5.2 Identified Project for development

The need to support graduate employability emerged as a common theme from 50% of the HEIs interviewed. On the whole it was felt that this remit was part of the HEI core mission and aspirations to show a direct impact upon a student's post-graduation employment prospects were beneficial to graduate recruitment & retention. An existing project, within the 2007-2013 Programme, focuses on these issues and so there is scope to expand this to include for example a wider postgraduate student engagement and an emphasis on tailored support for start-ups.

5.3 Other Project Ideas

Whilst graduate employability was the only really strong theme emerging there were a number of other projects under consideration. These included:

Table 7: Project Ideas from KT Directors' Interviews

Thematic Areas	Interest Expressed By	ESIF Strategic Fit
Advanced Engineering & Manufacturing	Bradford (emphasis on Bradford City)	<p>HUMBER: Centre for Offshore Renewable Engineering located in LEP. Renewables identified as one of two main key sectors, especially offshore wind (supported by two enterprise zones). Chemicals sector identified as a smart specialisation, but acknowledged the domination of large companies.</p> <p>LEEDS: Priority 1 – implicit in 1:2 'Innovation Capital Investment Programme', mention of materials & plastic, aero/auto engineering & construction.</p>

Agri-Tech	York	<p>HUMBER: Identified as a sector that will involve collaboration between other neighbouring LEPs (GLLEP on agri-food and YNNER on agri-food and bio-renewables).</p> <p>LEEDS: Priority 1 – specific mention in 1:2, BioVale project mentioned.</p> <p>YORK: Priority 2 – direct fit. Four projects already mentioned within the ESIF strategy document.</p>
Big Data	Leeds, York St John	LEEDS: Priority 1 – specific mention in 1:2, BIG Open Data Initiative mentioned as in development for the ‘Innovation Capital Investment Programme’
Business Management Systems	Leeds Trinity	LEEDS: Priority 1, 1:1 fits the cross-cutting action to support skills / business support initiatives
Creative / Digital	Bradford, Hull, York, York St John	<p>HUMBER: Identified as a smart specialisation for the LEP with strengths in digital gaming, content creation and creative sectors. However, plans already in place for development of new incubation space, so sector unlikely to require support through 2014-2020 ESIF programme.</p> <p>LEEDS: No specific mention of projects in this area (except Big Data) but plenty of comment on the sector throughout the document; p7 looking at cross-border links with Manchester City Region; p39 LCR claims to be the most important creative & digital centre in the North. Priority 1, links to tele-health project mentioned in 1:2</p>
Entrepreneurship & Employability (inc Internships)	Huddersfield, Hull, Leeds College of Art, Leeds Trinity, York St John	<p>LEEDS: Priority 1, 1:1 cross-cutting work to support skills for innovation / research; obvious scope for inclusion I 1:4 Enterprise Hub programme; Priority 2 (thematic objective 10=skills), 2:1 ‘Skills Hub & Skills Programme’, no direct HEI mention but obvious scope for involvement, likewise for 2:3 that is targeted at young people.</p> <p>YORK: Priority 1, objective 1b, linked to thematic objective 10; Priority 1, objective 1c, ‘Enhance Leadership & Management Skills’, obvious scope for HEI involvement.</p>
Food	Hull (potential to	HUMBER: Food processing identified as a smart specialisation, but acknowledged that lead likely to come

	work cross-border with Greater Lincolnshire LEP)	<p>from neighbouring LEPs</p> <p>LEEDS: Priority 1, 1:2 BioVale project specifically mentioned in the 'Innovation Capital Investment Programme'</p> <p>YORK: fits with Priority 2, innovation in AgriTech, BioVale project specifically mentioned</p>
Health (YSJ emphasis on care for the elderly)	Hull, York St John	<p>HUMBER Healthcare technologies identified as one of the two main priority sectors for the LEP. Identified strengths in medical devices, advanced wound care, telehealth and assistive technologies.</p> <p>LEEDS: Priority 1 – specific mention in 1:2 'Innovation Capital Investment Programme'. Regenerative Medicine Centre, Cancer Therapeutic Centre, Tele-health Centre area all ideas mentioned within the strategy document.</p>
Higher Level Skills for Construction	York St John	<p>LEEDS: Priority 1, specific mention of innovation for construction under the capital programme (1:2), also scope for construction to be one of the themes for the 'Innovation Challenge Competitions' (1:1)</p> <p>Priority 2, no direct mention but obvious opportunity under 2:1 'Skills Hub & Skills Fund Programme'</p> <p>YORK: no specific mention but obvious scope for inclusion within Priority 1, objectives 1b & 1c.</p>
Incubation Space	Leeds College of Art, Leeds Trinity	<p>LEEDS: No specific mention of incubation space but obvious scope within 1:2 if appropriate projects and rationale can be presented.</p>
Maritime	Hull	<p>HUMBER: Key sector for the LEP and several mentions of importance of blue economy. New enterprise zone located on estuary front that will be able to support offshore renewables and will also impact on related maritime engineering. Maritime law expertise of Hull University also identified.</p> <p>YORK: No specific mention of maritime as such, there is mention of coastal industries but with more of an emphasis on tourism / leisure.</p>
Product & Process Innovation	???	<p>LEEDS: no direct use of this phrase but obvious scope under Priority 1, probably within the majority of 'Innovation Challenge Competitions'</p> <p>YORK: Priority 1, specific mention of support for 'R&D</p>

		for new Product Development'
SME Gateway	Leeds	<p>HUMBER: Priority 1 Developing a streamlined on-stop shop approach to business support as part of its City Deal. Also wants to strengthen links between SMEs and HE sector.</p> <p>LEEDS: Priority 1, 1:4 to provide a focal point for all new business support projects and services. No specific mention of HEIs but obvious scope for a HEI gateway as part of the 'Business Growth & Enterprise Hub'</p> <p>YORK: Priority 1, specific mention of using UoY as a conduit to provide a simple point of access to HEI facilities.</p>
Textiles	Bradford, Leeds, Leeds College of Art Potential Project Lead: Leeds	<p>LEEDS: Priority 1, mention of colour as an opportunity in 1:2 'Innovation Capital Investment Programme', scope for a wider project based around broader textile technologies. Scope of textiles in 1:1 'Innovation Challenge Competitions'.</p>

Future discussions around these thematic areas would therefore be an excellent starting point for development of new projects for the 2014-20 ESIF Programme.

6. Summary and Recommendations

6.1 Looking at the outcomes of the 2007-2013 Programme the following observations can be made:

6.1.1 Early to contract projects are at an advantage when you look at the funding versus outputs ratio;

6.1.2 Also, to improve the outputs versus funding ratio, it is more advantageous for a project to contract both capital and revenue spend;

6.1.3 Valuable lessons can be learnt from previous HEI activity, including the time commitment required to manage SME engagements; the complexity associated with ESIF; and the need to carefully and consistently manage projects from inception to minimise risk.

6.2 Considering the HEI partner aspirations for the 2014-2020 Programme, the following conclusions can be drawn:

6.2.1 HEIs have been specifically identified as crucial delivery partners for ESIF projects in both Leeds and York LEPs;

6.2.2 There are a number of already identified HEI led projects within the published ESIF strategies that could be worked up as part of the YUTA project. These are:

Table 8: Potential YUTA project areas

BioVale	Leeds and York LEPs
Agri-Tec Innovation Programme	York LEP
One-Stop shop for bio-renewables Innovation	York LEP
Agri-Tech Campus Masterplan	York LEP
Innovation Health Hub	Leeds LEP
Fast Forward project	Leeds LEP
Linking KT & Academia in Healthcare	Humber LEP
York as SME hub	York LEP
Off-Shore Wind R&D	Humber LEP
Yorkshire Innovation Fund - extended scope	Leeds LEP
Low Carbon Innovation Fund	Humber LEP
Skills/ Business support to embed innovation capacity	Leeds LEP
Leadership Development Programme	York LEP
Young Persons' Enterprise and Innovation Programme	Leeds LEP

6.3 It is important that future projects take account of the SME base within the region to ensure project fit and minimise the risk of non-delivery of contracted outputs. Furthermore, this will also increase the value of SME engagements for both the companies and universities involved.

6.4 HEIs are key partners in the regional innovation agenda. As such they have been placed as key delivery bodies within each of the ESIF strategy documents produced and have been identified as providing gateways within the region which will enable regional SMEs to access global innovation networks. They have also been identified as a potential source of match-funding for ESIF.

6.5 HEIs are both local and global in nature with wide networks of contacts and access to cutting-edge research both in the UK and further afield. Regional SMEs should be able to benefit from this experience to enhance their performance on a global playing field. To enable the linkages to be made and exploited for the benefit of the regional economy HEIs could play a key role in the emerging Growth Hub agenda.

6.6. It will be necessary for HEIs planning SME engagement projects in the region to clearly link with the aims being developed in both the LEPs' ESIF strategies and the Strategic Economic Plans (SEPs), as well as other emerging policies, such as LCR LEP's Innovation Smart Specialisation Strategy. As such proposed projects will need to clearly articulate how they will be contributing to delivering the overarching targets of the LEPs, such as local jobs and GVA growth. Ideally HEI projects should align with other LEP priorities and seek to draw upon a wide range of funding in order to leverage added value for projects. DCLG has an aspiration to align ESIF and H2020 funding streams which should be built into projects if at all possible.

6.7 All LEPs have an interest in creating an overall culture of innovation and also improving skills levels. Projects that can link explicitly to these agendas are likely to be favoured. In areas that the regional universities have a clear interest, such as graduate entrepreneurship, it will be necessary to make the argument that these will help deliver the LEPs' agendas by retaining graduates in the region and helping create an innovation culture that will have spill-over benefits outside of the direct project.

6.8 SME engagement projects will also have more chance of success by explicitly showing how they will help deliver the skills agenda by creating opportunities for an up-skilled workforce, by delivering more technical opportunities in the region.

Appendices

APPENDIX 1

Table 9: List of 2007-2013 ERDF projects

HEI Partner	Project Name	No. of Partners	Priority	ERDF (£)	Match (£)	Total Value	Intervention rate (%)	Outputs	Duration
Bradford	Sustainability Centre	1	1	£2,776,510	£3,680,474	£6,456,984	43.00%	84 SME Assists new/upgraded floor space 1600m ² 130 Jobs Created 60 Jobs Safeg'd 25 Busi's Create £6m GVA	01/01/2008 - 31/12/2014
	Yorkshire Innovation Fund	11	1	£4,146,586	£2,332,458	£6,479,044	63.99%	300 SME Assist 180 Jobs Created 120 Jobs Safeg'd £12.21m GVA 90 RTD projects	01/07/2012 - 31/07/2015
University of Bradford – project totals				£6,923,096	£6,012,932	£12,936,028	53.52%		
Huddersfield	Graduate Entrepreneurship Project	10	2	£1,231,843	£1,237,530	£2,469,373	49.88%	20 SME assists 30 Jobs Created 50 Busi's Create	01/01/2011 - 31/10/2014
	Enterprise and Innovation	1	1	£6,192,408	£4,128,271	£10,320,679	60.00%	200 SME assists	01/04/2010 -



	Centre							new/upgraded floorspace 3,617m ² 15 Jobs Safeg'd 45 Jobs Created 7 Busi's Create £26m GVA	31/03/2014
University of Huddersfield – project totals				£7,424,251	£5,365,801	£12,790,052	58.05%		
Leeds	IPRD / IPOS	1	2	£4,379,555	£3,231,862	£7,611,417	57.54%	90 SME assists new/upgraded floorspace 1,105m ² 11 Jobs Safeg'd 28.5 Jobs Cr't'd 4 Busi's Created £1.3m GVA	01/01/2009 - 31/12/2013
	Nanofactory	1	6	£2,511,834	£2,086,246	£4,598,080	54.63%	82 SME Assist <i>17 Env Assist</i> 90 Jobs Created 35 Jobs Safeg'd £6m GVA 6 Busn's Create	01/05/2009 - 31/12/2013 <i>Rolled through to 31/03/2014</i>
University of Leeds – project totals				£6,891,389	£5,318,108	£12,209,497	56.44%		
Sheffield	AMI - Design Proto-typing and testing entre	1	1	£4,830,000	£4,830,000	£9,660,000	50.00%		01/10/2011 - 30/09/2014

	AMRC – Training Centre	1	1	£5,030,860	£12,899,640	£17,930,500	28.06%		01/10/2011-31/08/2014
	AMP – Advanced Manufacturing Centre	1	1	£1,572,387	£1,568,409	£3,140,796	50.06%		01/03/2011-30/06/2015
	Mercury Centre	1	1	£5,144,291	£4,594,281	£9,738,572	52.82%	48 SME Assist 45 Jobs Created 151 Jobs Safeg'd £7.8m GVA 4 Busn's Create	01/04/2010-31/12/2013 <i>Rolled through to 31/03/2014</i> <i>Extension to 30/06/2015</i>
	NAMRC/KTC (capital)	1	1	£15,177,247	£15,177,247	£30,354,494	50.00%	250 SME Assist 410 Jobs Created	01/01/2010-30/09/2013
	AMRC Hub (revenue)	1	1	£3,855,940	£3,855,940	£7,711,880	50.00%	900 Jobs Safeg'd	01/06/2010-28/12/2014
	Factory of the Future (capital)	1	1	£2,403,478	£2,403,478	£4,806,956	50.00%	£55m GVA 10 Busn's Create upgraded floor space 11,440m ²	01/04/2010-31/03/2013
University of Sheffield – project totals				£38,014,203	£45,328,995	£88,343,198	45.61%		
Science City York	Embedded Business Space and Technology Transfer	1	2	£19,750,975	£19,069,849	£38,820,824	50.09%	40 SME Assist New or upgraded floorspace 12,709	01/01/2007-30/06/2013

								90 Busn's Create 685 Jobs Created 800 Jobs Safeg'd £37m GVA	
	Specialist Services for Business Growth and Innovation	1	2	£1,258,003	£1,550,081	£2,808,084	44.79%		01/01/2007-30/09/2013
Sheffield Hallam University	Innovation Futures	1	1	£1,540,765	£1,480,343	£3,021,108	50.99%	119 SME Assists 27.6 Jobs Creat'd 11 Jobs Safeg'd £14.9m GVA 5 Busn's Create	01/01/2009-31/12/2012
	Innovation Futures 2	1	1	£966,868	£876,922	£1,843,790	52.24%	51 SME Assists (6 LC Assists) 55 Jobs Created 100 Jobs Safeg'd £2.3m GVA 0 Busn's Create	01/01/2013-30/06/2015
Sheffield Hallam University – project totals				£2,507,633	£2,357,265	£4,864,898	51.55%		
York	WasteValor Project	1	1	£1,801,913	£1,013,576	£2,815,489	64.00%	60 SME Assist 11 Env Assists 24 Jobs Created	01/11/2011-30/06/2015

								12 in Research 5 in Environm'l 6 Jobs Safeg'd 4 Busn's Create, Environmental £3m GVA 50 RTD Projects New/Upgraded floorspace 826m ²	
University of York / Science City York – project totals				£22,810,891	£21,633,506	£44,444,397	51.32%		

NOTE: *purple text* from published OBP, output figures to be confirmed

NOTE: Leeds Met & University of Bradford are both involved in the 'Business Growth Calderdale' project which is Local Authority managed

APPENDIX 2

Table 10: Humber LEP ESIF Budget Split by Thematic Objective

Humber 2014-2020 ESIF allocation by Thematic Objective	
ERDF	£m
1. Innovation	£5.14m
2. ICT	£2.57m
3. SME Competitiveness	£15.41m
4. Low Carbon	£14.56m (28%)
<i>Sub-total</i>	£37.68m (72%)
5. Climate Change Adaptation	£10.13m
6. Environmental Protection	£3.42m
7. Sustainable Transport	£1.00m
ERDF total	£52.23m
ESF	
8. Employment	£12.33m
9. Social inclusion	£7.1m (20%)
10. Skills	£16.26m
ESF total	£35.45m
Programme total	£87.67m

APPENDIX 3

Table 11: Leeds City Region LEP ESIF Budget Split by Thematic Objective

THEMATIC OBJECTIVE		ERDF		ESF		EAFRD		TOTAL	
		€	£	€	£	€	£	€	£
1	INNOVATION /RESEARCH	33.25	28.47	0	0	0	0	33.25	28.47
2	ICT (Digital/Broadband)	19.56	16.75	0	0	2.0	1.6	21.56	18.35
3	SME COMPETITIVENESS	77.61	66.45	0	0	0	0	77.61	66.45
4	LOW CARBON	39.12	33.49	0	0	1.0	0.80	40.12	34.29
5	CLIMATE CHANGE ADAPTATION	7.82	6.70	0	0	0	0	7.82	6.70
6	PROTECTING THE ENVIRONMENT	10.52	9.01	0	0	3.0	2.4	13.52	11.41
7	SUSTAINABLE TRANSPORT	0	0	0	0	0	0	0	0
8	EMPLOYMENT	0	0	52.52	44.97	0	0	52.52	44.97
9	SOCIAL INCLUSION	11.62	9.95	29.63	25.37	0	0	41.25	35.32
10	SKILLS	0	0	109.54	93.78	0.53	0.43	110.07	94.21
TOTAL		199.5	170.82	191.69	164.12	6.53	5.23	397.72	340.17

NOTE: These Thematic Objectives have been set by the European Commission

APPENDIX 4

Table 12: York, North Yorkshire and East Riding LEP Budget Allocations

Strategic Priority/ Programme	Objectives	EU Funding Allocation (£m by objective)	EU Allocation (£m by priority)	% ¹⁰
1) Profitable and ambitious small and micro businesses	Innovative, growing small businesses	17.10	25.65	27%
	More entrepreneurs who start and grow a business	6.0		
	Ambitious business leaders	2.55		
2) A global leader in food manufacturing, agri-tech and biorenewables	World class innovation in agri-tech and biorenewables	8.25	16.54	18%
	Agriculture and food business connected to new opportunities	0.90		
	Low carbon businesses	7.39		
3) Inspired people	A productive workforce for growing businesses	19.66	33.27	36%
	Inspired people making the right job choices	5.55		
	Empowered communities delivering support and inclusion	7.85		
4) Successful and distinctive places	Environmental quality and community needs	13.79	13.79	15%
5) A well connected economy	Transport that underpins growth	2.0	4.0	4%
	Access to UK and international markets (Broadband)	2.0		

APPENDIX 5

Humber LEP

One strategy document

Strategic Programmes

1. The SME growth & innovation programme
2. The skills programme
3. The sustainable communities & innovation programme
4. The climate change & environmental protection programme
5. The infra-structure programme

Core Activities – SME Growth & Innovation Programme

Priority: Building the growth capabilities of SMEs

- i. Enabling businesses to access finance at each stage of their development (TO3);
- ii. Supporting companies to develop business growth strategies, enter new domestic and international markets and implement productivity improvements;
- iii. Awareness raising of the full breadth of support available to SMEs to help them expand, diversify and to achieve their growth ambitions and strategies;
- iv. Providing grow-on (and, if necessary, incubation) space in geographic areas where evidence shows there is a demand that cannot be met through current supply.

Priority: Fostering a more entrepreneurial culture

- i. Provision of start-up finance, early stage equity, venture capital and proof of concept funding (TO3);
- ii. Schemes to promote and support entrepreneurship (including graduate entrepreneurship) and self-employment, including amongst groups who may not be enterprise savvy (e.g. the unemployed);
- iii. Supporting businesses to become investment ready;

Priority: Building collaborative research between enterprises, research institutions and public institutions

- i. Making low carbon venture capital available, via the Low Carbon Innovation Fund, to support growth in local companies that are developing low carbon products or services or improving their processes to reduce their operational CO2 outputs (TO1);
- ii. Positioning the Humber as an international centre of excellence in offshore wind training and research and development. This will involve collaborative partnership arrangements involving education providers (HE and FE), industry and developers;
- iii. Further developing our strengths in specific healthcare niches by more intensively linking the academic and knowledge transfer agendas benefiting the Humber and wider region. This would include enabling companies to access HE knowledge, skills and expertise to develop technologies and solutions;
- iv. Supporting the ongoing identification and development of new opportunities to exploit innovation as markets continue to develop over the course of the programme period.

Priority: Building the market in low carbon goods and services

- i. Supporting SMEs to deploy local carbon solutions and support to diversify technologies. (TO4)

Priority: Extending the roll-out of high speed communications

- i. Investment in ICT infrastructure (via EAFRD) where it can be demonstrated to be required to address a gap in private sector provision and where it currently serves as a barrier to SME growth (TO2)

Priority: Supporting SMEs in their development of ICT products, services and e-commerce

- i. Support packages that allow SMEs and social enterprises to increase their awareness of the local ICT offer (specifically the latest technologies) and how it can benefit their operations (TO2);
- ii. Support to help SMEs and social enterprises to build improved ICT connections into their day- to-day business to improve efficiency/productivity and explore new markets;
- iii. Working with SMEs and social enterprises to explore opportunities for new product and service offers using enhanced ICT networks, knowledge and skills.

Smart Specialisation

1. Renewable energy;
2. Chemicals;
3. Ports/Logistics;
4. Healthcare technologies;
5. Creative and digital;
6. Food processing.

Of the 6 Smart Specialisations identified above two have been highlighted as a particular focus for the ESIF Programme: Renewable Energy & Healthcare Technologies

Leeds LEP

One strategy document

Strategic Priorities

1. Unlocking growth potential of business in key economic sectors
2. Making the most of a skilled and flexible workforce
3. A resource smart city region
4. Creating the environment for growth

Core Activities

Leeds: Priority 1

1:1 Business Innovation Programme

Action: Innovation support for SMEs – Innovation Animateur – links to thematic objective 1

Action: specific mention of an aspiration to expand the scope of the existing 'Yorkshire Innovation Fund' project – links to thematic objective 1

Action: specific mention of an aspiration to develop a project to take forward the UoL IPO Fast Forward co-creation project – links to thematic objective 1

Action: Innovation Challenge Competitions – periodic calls around specific innovation topics – links to thematic objective 1

Action: Cross-cutting Work – Skills / Business Support to embed innovation capacity within SMEs – links to thematic objective 1

1:2 Innovation Capital Investment Programme

Action: Innovation Health Hub (Leeds); BioVale (York) – 2 projects specifically mentioned – links to thematic objective 1

Under development – Regenerative Medicine Centre (Leeds); Cancer Therapeutic Centre (Leeds); Tele-health Centre (Bradford); BIG Open Data Initiative (Leeds); UK Rail Centre of Excellence (Huddersfield)

Longer term Opps – materials and plastic (Bradford), Colour (Leeds); Aero/Auto Engineering (Bradford / Kirklees); Construction (Leeds) – links to thematic objective 2

1:4 Business Growth & Enterprise Hub Programme

Action: Focal point for all new business support projects & services – Co-locate activity in main urban centres – HEIs not mentioned in there at the moment; LAs, UKTI, MAS and A2F, GA etc, are mentioned. Act as an anchor for new products and services – links to thematic objective 3
An opportunity exists for HEIs to act as a part of this Enterprise Hub to create a single point of entry to the regional knowledge base.

Leeds: Priority 2

2:1 Skills Hub & Skills Fund Programme

No direct HEI involvement but obvious potential for synergies as concept develops – links to thematic objective 10

2:3 Promoting Enterprise & Innovation in Young People

Action: Programmes to Inspire Young Persons Enterprises & Innovation. Part of SFA opt-in BUT plans to expand opportunities for internships & work experiences for students & development of a comprehensive business inspired enterprise and innovation curriculum in educational institution.

Obvious potential for synergies as concept develops – links to thematic objective 10

It is stated in the document that HEIs would be expected to contribute financially to this area of work.

Leeds: Priority 3

3:2 Local Low Carbon Energy & Waste Programme

Action: stimulate growth in the Region's low carbon industries, development of an energy investment road-map that will then inform interventions to include *inter alia* growth in the LCR low carbon industries – links to thematic objective 4

No direct HEI mention but obvious potential for synergies as concept develops.

Leeds: Priority 4

No direct HEI involvement.

Smart Specialisation (Key / Priority Sectors)

1. Financial & professional services;
2. Innovative manufacturing;
3. Health and life sciences;
4. Low carbon & environmental industries;



5. Digital & creative industries;
6. Food & drink.

York, North Yorkshire & East Riding LEP

Two strategy documents:

Strategic Economic Plan: ESIF Submission

European Union Strategy Investment Fund: Implementation Plan

Strategic Priorities

1. Profitable and ambitious small & micro businesses;
2. Global leader in food manufacturing, agritech and bio-renewables;
3. Inspired people;
4. Successful and distinctive places;
5. A well-connected economy.

Core Activities

York: Priority 1

Increase Innovation in Small Businesses (objective 1a, page 7)

Action: single access point to improve access SME-HEI (UoY, ERDF) – use UoY as a conduit to other HEIs across the UK – links to thematic objective 1

Action: financial support for R&D & new Product Development (SCY, ERDF) – links to thematic objective 1

Inspire and Support new business starts (objective 1b, page 7)

Action: Enterprise, Education and Culture (Education providers, ERDF/ESF) – links to thematic objective 10

Enhance Leadership & Management Skills (objective 1c, page 8)

Action: Leadership Development Programme (HEIs, ESF) – links to thematic objective 10

York: Priority 2

World Class Innovation in AgriTech and Bio-Renewables (objective 2a, page 14)

Action: Deliver Sandhutton / Fera Agritech Campus Master Plan (Defra/UoY, ERDF/Growing Places/Defra/UoY/Growth Deal) – links to thematic objective 1

Action: Develop an agritech innovation programme connecting businesses to R&D and centre of expertise (Fera/UoY, Growth Deal/HEIs/ERDF/TSB/Innovation Partners) – links to thematic objective 1

Action: Create a one-stop-shop on Bio-Renewables Innovation (BioVale partners, Growth Deal/Private Sector/ERDF) – links to thematic objective 1

Action: Promote Technology Transfer & Specialist Business Advice (BioVale partners, Growth Deal/HEIs/ERDF) – links to thematic objective 10

York: Priority 3

No direct HEI involvement although some correlation between HEI driven graduate employability agenda.

York: Priority 4

No direct HEI involvement.

York: Priority 5

No direct HEI involvement.

Smart Specialisation

1. Food manufacturing;
2. Agritech & biorenewables.

APPENDIX 6

Table 13: Number of SMEs in Yorkshire & Humber by Sector

SME by Sector	No Employees (unregistered)*	No Employees (registered)*	1	2-4	5-9	10-19	20-49	50-99	100-199	200-249	TOTAL
A Agriculture, Forestry and Fishing	800	6,755	1,680	1,900	545	215	65	20	5	0	11,985
B, D and E Mining and Quarrying; Electricity, Gas, Steam and Air Conditioning Supply; Water Supply; Sewerage, Waste Management and Remediation Activities	770	290	20	190	120	85	45	20	5	0	1,545
C Manufacturing	11,085	3,195	585	2,915	1,740	1,320	965	430	210	50	22,495
F Construction	52,115	8,005	1,915	6,040	1,830	920	400	105	25	10	71,365
G Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	12,290	10,120	2,900	9,015	4,265	1,940	895	285	110	20	41,840
H Transportation and Storage	15,195	3,140	485	1,190	565	370	260	70	35	10	21,320
I Accommodation and Food Service Activities	5,170	995	1,660	4,085	2,090	1,085	490	120	35	5	15,735
J Information and Communication	11,180	4,470	105	1,990	455	225	140	40	20	5	18,630
K Financial and Insurance Activities	4,780	830	100	700	260	120	60	30	10	5	6,895
L Real Estate Activities	50	3,095	175	1,360	520	205	55	15	5	0	5,480
M Professional, Scientific and Technical Activities	16,260	10,970	1,045	5,550	1,575	830	405	140	60	5	36,840
N Administrative and Support Service Activities	16,705	3,745	1,050	2,850	1,030	550	330	165	85	15	26,525
P Education	15,050	715	85	560	255	175	95	15	10	5	16,965
Q Human Health and Social Work Activities	18,180	955	500	1,060	805	875	795	205	50	15	23,440



R Arts, Entertainment and Recreation	7,615	1,350	175	725	275	140	100	25	15	10	10,430
S Other Service Activities	15,645	1,275	1,045	2,615	820	245	80	10	5	0	21,740
TOTAL	202,890	59,905	13,525	42,745	17,150	9,300	5,180	1,695	685	155	353,230

* Businesses with no employees can either be 'registered' for either VAT and/or PAYE or are 'unregistered' (because they operate in a VAT exempt industry or they operate below the VAT threshold and do not operate a pay-as-you-earn scheme).

APPENDIX 7

Table 14: Percentage of SMEs by size in sector within Yorkshire and Humber

SME by Sector	No Employees (unregistered)*	No Employees (registered)*	TOTAL% with no employees	1	2-4	5-9	10-19	20-49	50-99	100-199	200-249
A Agriculture, Forestry and Fishing	6.7%	56.4%	63.0%	14.0%	15.9%	4.5%	1.8%	0.5%	0.2%	0.0%	0.0%
B, D and E Mining and Quarrying; Electricity, Gas, Steam and Air Conditioning Supply; Water Supply; Sewerage, Waste Management and Remediation Activities	49.8%	18.8%	68.6%	1.3%	12.3%	7.8%	5.5%	2.9%	1.3%	0.3%	0.0%
C Manufacturing	49.3%	14.2%	63.5%	2.6%	13.0%	7.7%	5.9%	4.3%	1.9%	0.9%	0.2%
F Construction	73.0%	11.2%	84.2%	2.7%	8.5%	2.6%	1.3%	0.6%	0.1%	0.0%	0.0%
G Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	29.4%	24.2%	53.6%	6.9%	21.5%	10.2%	4.6%	2.1%	0.7%	0.3%	0.0%
H Transportation and Storage	71.3%	14.7%	86.0%	2.3%	5.6%	2.7%	1.7%	1.2%	0.3%	0.2%	0.0%
I Accommodation and Food Service Activities	32.9%	6.3%	39.2%	10.5%	26.0%	13.3%	6.9%	3.1%	0.8%	0.2%	0.0%
J Information and Communication	60.0%	24.0%	84.0%	0.6%	10.7%	2.4%	1.2%	0.8%	0.2%	0.1%	0.0%
K Financial and Insurance Activities	69.3%	12.0%	81.4%	1.5%	10.2%	3.8%	1.7%	0.9%	0.4%	0.1%	0.1%
L Real Estate Activities	0.9%	56.5%	57.4%	3.2%	24.8%	9.5%	3.7%	1.0%	0.3%	0.1%	0.0%
M Professional, Scientific and Technical Activities	44.1%	29.8%	73.9%	2.8%	15.1%	4.3%	2.3%	1.1%	0.4%	0.2%	0.0%
N Administrative and Support Service Activities	63.0%	14.1%	77.1%	4.0%	10.7%	3.9%	2.1%	1.2%	0.6%	0.3%	0.1%

P Education	88.7%	4.2%	92.9%	0.5%	3.3%	1.5%	1.0%	0.6%	0.1%	0.1%	0.0%
Q Human Health and Social Work Activities	77.6%	4.1%	81.6%	2.1%	4.5%	3.4%	3.7%	3.4%	0.9%	0.2%	0.1%
R Arts, Entertainment and Recreation	73.0%	12.9%	86.0%	1.7%	7.0%	2.6%	1.3%	1.0%	0.2%	0.1%	0.1%
S Other Service Activities	72.0%	5.9%	77.8%	4.8%	12.0%	3.8%	1.1%	0.4%	0.0%	0.0%	0.0%

APPENDIX 8 Performance by Region

Table 15: Trademarks Filed and Granted by Region (2012)

Region	Applications Filed	Applications Registered
London	9820	8245
South East	5475	4649
Northern Ireland	3611	2941
North West	2833	2482
South West	2755	2327
East of England	2761	2289
West Midlands	2411	1955
East Midlands	1836	1503
Scotland	1885	1480
Wales	857	676
North East	338	271
Yorkshire	225	181

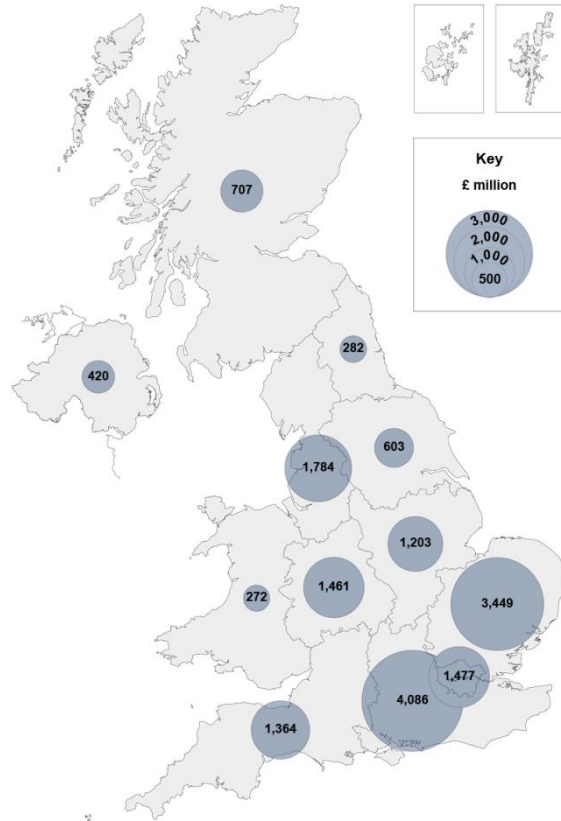
Table 16: Design Rights Filed and Registered by Region (2012)

Region	Applications Filed	Applications Registered
London	1313	782
South East	738	623
Northern Ireland	579	455
West Midlands	504	418
South West	392	333
East of England	339	261
North West	326	261
Scotland	302	238
East Midlands	189	160
Wales	147	130
Other	106	84
Yorkshire	34	27
North East	27	25

APPENDIX 9

Map 1: Expenditure on R&D Performed in UK Businesses by Region (2012)

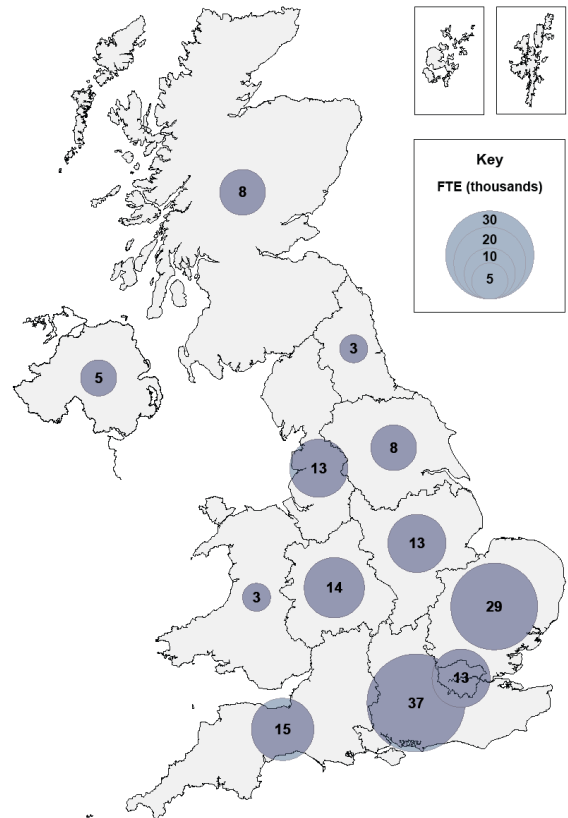
Map 1: Expenditure on R&D performed in UK businesses, by Region, 2012



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Map 2: Expenditure on R&D Performed in UK Businesses by Region (2012)

Map 2: Employment on R & D performed in UK businesses by Region, 2012



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Contains Ordnance Survey data © Crown copyright and database right 2013

Bibliography

BIS, *UK Innovation Survey 2011* (2012)

<https://www.gov.uk/government/publications/uk-innovation-survey-2011-first-findings>

BIS, *Business Population Estimates for the UK and Region 2013* (23 October 2013)

<https://www.gov.uk/government/publications/business-population-estimates-2013>

European Commission, *The New SME Definition: User Guide and Model Declaration*

http://ec.europa.eu/enterprise/policies/sme/files/sme_definition/sme_user_guide_en.pdf

European Commission, *EU R&D Scoreboard: The 2013 EU Industrial R&D Investment Scoreboard* (2013)

<http://iri.jrc.ec.europa.eu/scoreboard13.html>

Encouraging a British Invention Revolution: Sir Andrew Witty's Review of Universities and Growth (October 2013)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/249720/bis-13-1241-encouraging-a-british-invention-revolution-andrew-witty-review-R1.pdf

HE-BCI Survey Data (accessed via HEIDI)

HM Government, *Structural and Investment Fund Strategies: Preliminary guidance to Local Enterprise Partnerships* (April 2013)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/190879/13-747-structural-and-investment-fund-strategies-preliminary-guidance-to-leps.pdf

Simon Hooten, *Where Are We At? Leeds City Region's Innovation Performance*

Presentation at the LCR event Roadmap to a More Innovative Leeds City Region (26 November 2013) <http://www.slideshare.net/rolandharwood/leeds-city-region-stakeholder-workshop-event-26th-november-2013>;

Intellectual Property Office, *Facts and Figures 2011 and 2012 Calendar Years* (April 2013) <http://www.ipo.gov.uk/about-facts1112.pdf>