

Universities and European Structural and Investment Funds

Playing our part in delivering growth: a good practice guide for senior managers and practitioners in Higher Education



What is this guide?

Yorkshire Universities' Good Practice Guide is a practical, evidence-based guide which will inform and assist planning for European Structural and Investment Funds (ESIF) projects in the Higher Education sector. A brief overview is followed by the three main sections of the guide:

- part one explores how the 2014–2020 programme will be managed, how it will differ from previous programmes, what new opportunities exist and it looks at the role that universities can play in helping to deliver the new programme
- part two makes a detailed examination of areas of activity which universities can offer as LEPs make their investment decisions: these include research and development, innovation support and a wide range of small- and medium-sized enterprise (SME) engagement activities from collaborative PhD programmes and graduate placements to innovation voucher schemes
- part three outlines some of the new areas of activity which the programme aims to support including widening HE participation, social innovation, student enterprise and employability and the low carbon economy and concludes with some practical next steps for universities.

The guide includes brief case studies and is based on research, workshops and discussions with a wide range of universities across the UK during the summer of 2014. One innovative feature is a series of practical good practice points for each area of activity. As well as a wide range of Higher Education experience and input, the guide includes valuable input from HEFCE, Universities UK and other national bodies.

Who is it for?

The guide contains useful and relevant content for a range of HE professionals. *Senior managers* will benefit from a clearer understanding of how the 2014–2020 programme will be managed and how their universities can interact with the programme. *Project managers* will find practical ideas for maximising the impact of their work through more effective planning and delivery. Staff working for *Local Enterprise Partnerships* will also benefit from insights into the wide range of inputs which Higher Education can make to the economy.

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Playing our part in delivering growth: a good practice guide for senior managers and practitioners

Universities drive innovation using research and development. They build the graduate workforce demanded by today's knowledge economy. They're at the heart of regeneration, creating new business facilities and boosting entrepreneurship. And they work with small businesses to help them on the road to growth and sustainability.

Many of these important contributions have been supported by funding from the European Union: over the next few months Local Enterprise Partnerships (LEPs), working closely with a range of other organisations in their areas, will be deciding how to invest European Structural and Investment Funds (ESIF) from now to 2020.

This guide is based on the practical experience of universities from across the UK to help inform and inspire research, development and innovation, business growth, investment and enterprise, skills and inclusion activities supported by ESIF – all areas in which universities have key roles to play.

The guide brings together a wide range of knowledge, insights and understanding from Higher Education professionals who have solid experience of using ESIF to deliver real and lasting benefits to their economies and communities.

**Professor Madeline Atkins
Chief Executive HEFCE**

The new ESIF programmes are an exciting and refreshed opportunity to embed universities as anchor institutions and to support their real contribution to local growth. They're much wider in scope and there is genuine potential to simplify the red tape. Universities will be central to the work of LEPs. They can help prioritise their growth sectors and support for innovation using the very credible process of Smart Specialisation. The return of ESIF funding for higher level skills and for widening participation is especially welcome, particularly in support of priority growth sectors and in those 'cold spots' with low levels of participation in HE. The introduction of support for social innovation is also new but has considerable potential for us to think differently about smarter, more sustainable and more inclusive growth.

HEFCE welcomes the structure of the new programmes. No longer will universities be restricted by artificial boundaries when working collaboratively with firms. The opportunity to package individual actions into more strategic and integrated suites of activity is also beneficial. Getting the 'devil in the detail' right will be critical, but universities and their partners can help government departments to make it happen. It's a fresh start and a challenge we face with commitment.

**Professor Calie Pistorius
Vice-Chancellor of University of Hull and Chair of Yorkshire Universities**

The Yorkshire Universities partnership encompasses a wide range of institutions from universities driven by world-class research to specialist music and arts colleges. One thing we have in common is a desire to maximise HE's contribution to Yorkshire's economy, culture and society. Universities are a powerful force for change: working collectively, we are committed to applying our world-class strengths in research, innovation, enterprise and high level skills to drive our local economies and to provide real benefits to our businesses and people.

In recent years we have built strong relationships with LEPs as the focus on locally-driven economic development has emerged, and we look forward to forging strong business-led partnerships, creating new opportunities for knowledge exchange, stimulating innovation and providing the next generation of students with the higher-level skills to drive and support Yorkshire's economy in 2020 and beyond.

The 2014–2020 ESIF programme will give our universities the opportunity to make stronger and more focused contributions to the regional economy. This guide is very timely and will help universities both in Yorkshire and beyond to look afresh at how we can best engage with local economies and contribute to ESIF strategies. Yorkshire Universities and its partners are proud to be leading this debate and look forward to working with LEPs, local authorities and the business community to bring plans for knowledge-driven business growth to fruition.

**Roger Marsh
Chair, Leeds City-Region LEP**

The Smith Institute's 2011 report *Rebalancing the Economy: Prospects for the North* highlighted gaps in the knowledge-based and high-tech industries in our key northern cities and called for a long-term strategy for sustainable economic growth, founded on the competitive strengths of our City-Regions. That report recognised the major contribution that universities make to the regional economy "...not just in the obvious sense of developing learning and skills, but also as major employers in their own right, centres of scientific research, and... in providing direct support to business". The LEP recognises the positive contribution that universities make to developing and delivering regional policy, encompassing teaching, research and business engagement.

In the Leeds City Region we also recognise the importance of innovation and skills in driving the future growth of our knowledge-based economy in areas as diverse as food, advanced manufacturing, medicine and health, textiles and bio-renewables. We have one of the largest concentrations of universities and students anywhere in the world. This critical mass of research power in the region has led to some of the largest commercial investments in UK university spin-out businesses, as well as global deals such developing the next generation of turbochargers for Jaguar Land Rover car engines.

We greatly value the role of our universities in supporting the delivery of our Strategic Economic Plan and ESIF, importantly working in close collaboration with business leaders and other key stakeholders. The Good Practice Guide will support this and clearly demonstrates the vital role of our HE partners in developing a prosperous and sustainable future.

**The Rt Hon Greg Clark MP
Minister for Universities and Science**

Universities transform the lives of individuals and shape our society for the better. But they are also powerhouses for economic growth and play a central role in our nation's competitiveness and future prosperity.

We see them as a vital part of the Government's long term economic plan to build a more resilient economy and create jobs. In 2011–12, the UK Higher Education sector was worth more than £73 billion to the economy – 2.8 per cent of our gross domestic product – and the sector employs more than 750,000 people.

In addition to their world-class role as leaders in research, development and innovation, universities have a crucial local role, pumping new life into our towns and cities, stimulating regeneration and directly supporting the growth of new, knowledge-based jobs and skills in every region. LEPs should look to universities as key partners in these areas, and support from ESIF is an important element in this shared agenda.

Alongside support for business, the funds will now support fair access to HE, widening participation and the enterprise and employability of our graduates, all key objectives for this Government: the next round of EU funds will open up new opportunities to maximise universities' impact in these vital areas. Finally, I know that some universities have expressed concern about the bureaucracy of these funds and have seen this as a real barrier to involvement. I am pleased that my colleagues in the Department for Communities and Local Government have listened to these concerns and developed an approach which will be much simpler, while retaining the rigorous approach to audit that we must have where public funds are concerned.

Universities are at the heart of our society and our economy, and I am very pleased to add my support to this guide which will help strengthen their position as vibrant, challenging and innovative partners on our journey to a sustainable and prosperous future.



ESIF and HE: an overview

Why should universities work with local partnerships to deliver ESIF strategies?

The central benefit of engaging with ESIF is complementing investment in core activities. ESIF investment can attract additional Research Council and Horizon 2020 funding, and offer demonstrable impact in Research Excellent Framework (REF) terms. The new programme offers important opportunities through the European Social Fund to invest in postgraduate skills, knowledge exchange, employability and widening participation, enabling universities to strengthen their offer to students, local employers and local communities. Finally, the new programme has made some real strides on simplification, addressing problems that have discouraged universities from working with ESIF in the past.

The UK's European and Structural Investment Fund concentrates investment on supporting the growth of SMEs with high-value products and services in growing markets, and on ensuring the benefits of this investment reach local communities. Universities are important partners in the delivery of this because they

- help SMEs to innovate through research, collaboration and networking
- produce skilled graduates who are vital to business growth and are a key resource for local SMEs through student projects and as employees
- are part of clusters of excellence, at the forefront of developing next generation technologies and processes which will underpin future economic growth
- have extensive SME networks and many have business gateways or hubs through which they deliver practical support and advice to businesses
- have global connections through their research and development, through international partnerships with overseas universities and global businesses, and through their networks of alumni around the world
- help drive social mobility by working with schools and colleges to widen HE participation
- understand emerging sectors such as the low carbon economy and the growth of social enterprise
- are major local employers in their own right and investors in supporting regeneration.

How should local partnerships and universities work together?

The mind-set with which universities and local partnerships approach the ESIF dialogue is critical. Relationships where the universities are trusted partners in a local growth strategy are invariably more effective than those which operate on a transactional, buyer-seller basis. Universities which can demonstrate their ambitions to contribute to local economic growth, rather than simply to seek additional sources of funding, are also more likely to find favour with funders.

Almost every LEP has at least one university on its Board. Universities have led and supported the development of ESIF strategies by

- working with leading local R&D-active businesses to identify the local Smart Specialisation priorities – niche sectors and technologies in which the area excels and which have strong potential for growth
- analysing the local labour and skills market to identify gaps and opportunities
- developing a joined-up plan for services to support SME growth and innovation – universities are core partners in developing many Growth Hubs

Some universities have research expertise in local economic development and can second staff to local partnerships, an effective way to build relationships and understanding. Universities are also major investors in their local areas and can be an important source of match funding for local ESIF delivery. This could put universities in a strong position as the programme develops if, as expected, it proves difficult to find other sources of public match funding.

Universities have sufficient scale to develop larger 'operations', integrating a range of services into a joined-up package. Local partnerships are working with universities to develop operations including excellence clusters, growth and innovation hubs and higher level skills partnerships.

What can universities contribute to ESIF strategies and the local economy?

The best ESIF projects are built on the basis of 'win-win' – benefits for both ESIF partnership and the delivery organisation. This Good Practice Guide identifies five particular types of ESIF project in which universities have a proven track record:

- **R&D centres** collaborate with industry to create and strengthen clusters of commercial excellence, particularly aligned with local Smart Specialisation priorities. Examples include Biovale in York, the Graphene Institute in Manchester, the Environment and Sustainability Institute in Cornwall and several centres which are part of the Advanced Manufacturing Catapult including the Advanced Manufacturing Research Centre in Sheffield
- **Innovation centres** and campuses provide specialist facilities, support and funding to SMEs embarking on R&D and innovation projects. Examples include the 3M Buckley Innovation Centre in Huddersfield, the Marine Innovation Centre in Plymouth, Daresbury Science and Technology Park, the Cornwall Innovation Centres and Re:Centre at Bradford
- Collaborative **PhD and Masters programmes** support research projects specified by SMEs and undertaken by a research student supervised by the university. They are an excellent way for SMEs to embark on R&D for the first time. Examples include collaborative PhD schemes in Wales, Scotland and Cornwall
- **Graduate placements** and projects are structured placements through which recent graduates undertake a defined piece of project work for an SME and benefit from training and mentoring. They are a proven means of encouraging SMEs to invest in higher level skills. Again the longest-running examples include graduate placement schemes in Cornwall, Scotland and Wales
- **Innovation voucher** schemes offer funding to businesses to support early-stage innovation such as new product design, proof of concept, prototyping or intellectual property protection. Most successful local innovation voucher schemes are managed by universities: examples include schemes in Yorkshire, the West Midlands, Coventry, Cornwall, North West England, Scotland and Yorkshire.

As well as these tried and tested ways for universities to help deliver ESIF projects, the new programme offers opportunities for local partnerships and universities to work together to deliver a broader range of development activity including

- Social innovation
- Developing the low carbon economy
- Higher level skills
- Widening participation to drive social inclusion
- Developing students' enterprise and employability skills

What sort of impact can universities make?

Many of the initiatives set out in the YU Good Practice Guide have been the subject of rigorous and independent evaluation. The results are impressive:

- More than 90% of businesses reported an excellent experience of graduate placements, and two-thirds of placements lead to permanent recruitment. Turnover growth of more than £100,000 was reported by the majority of businesses in one programme as a direct result of the graduate project. One scheme with total funding of £19m led to a net increase in business turnover of almost £40m in the first three years alone
- Demand for some innovation voucher schemes has exceeded supply more than threefold, and schemes reported a return on public investment of between 9:1 and 12:1. In one scheme, more than half the SMEs involved continued to work with a university on further R&D after the funding ceased
- R&D projects with university involvement have helped to create hundreds of new jobs and increases in Gross Value Added (GVA) several times the initial investment. R&D helps to create long-term growth, multiplying the impact and delivering real transformation to local economies
- University-led innovation centres have reported average annual client growth of more than 40% and very high rates of job creation and business survival.

What does the new programme look like?

New programme, new opportunities

UK universities have significant experience of working with EU structural funds, both in the most recent programme from 2007 to 2013 and before. Much of this experience is directly relevant to the next programme and this guide lays out some of those experiences and the good practice and learning which can inform universities' thinking on how to contribute to the next programme, to maximise their impact on local and regional economies.

However, it would be a mistake to think that the 2014–2020 programme is just 'more of the same' – it is not. The next programme opens up new opportunities for universities in areas which have not previously been within the scope of ESIF and it will also be run quite differently. This section of the guide gives an overview of new opportunities for engagement, looks at the way the programme will be managed and examines the implications for Higher Education.

During the good practice workshops which informed this guide, it became clear that the management of the next programme was not yet well understood by some university colleagues so the guide includes some basic guidance and avenues to find more information.

This guide is for those working at a strategic level in institutions and in LEP area ESIF committees who want

a better understanding of the contribution universities can make to the delivery of ESIF priorities. It will help those tasked with shaping calls and proposals with insights into what has – and in a few cases has not – worked well in the past, in the view of those who have been at the sharp end of developing and delivering these projects.

Key facts about the new programme

One national programme

Although the next programme will run from 2014 to 2020 it is not likely to be operational until spring 2015. Known as the Growth Programme, there will be one national programme for England combining European Regional Development Fund (ERDF), European Social Fund (ESF) and some elements of the European Agricultural Fund for Rural Development (EAFRD). In contrast with previous programmes, this should make it easier for projects to draw on more than one fund. The programme will be governed by a single national ESIF Growth Programme Board, on which the HE sector is represented.

Simplifying the bureaucracy

UK Government is committed to simplifying the bureaucracy that has in the past been a real barrier to working with ESIF. New regulations allowing unit or fixed costs, nationally consistent guidance on eligibility, standard forms and guidance, and better co-ordination of reporting, monitoring and audit will all help make the programmes more

accessible to universities and other delivery partners and will significantly reduce compliance risk. More information is available on the Universities UK LinkedIn profile.

Localism

Localism is a big commitment for the Government and this will be reflected in the 2014–2020 programme. Although there will be a single England programme, the intention is for it to be as permissive and flexible as possible so that local areas can decide on which priorities they wish to support. LEPs will set up local area committees which will set strategic priorities for the use of local ESIF funds, review and prioritise calls for proposals, prompt project development and monitor progress, working with the Department for Communities and Local Government (CLG) as the Managing Authority responsible for compliance and the overall progress of the programme at national level.

Operations not projects

The Government is keen to see bundles or suites of projects brought together into larger-scale 'operations' which can be managed together. This could be attractive to universities who might, for example, group together in a LEP area to propose an operation to deliver a broad suite of knowledge exchange activities including vouchers and grants, collaborative PhDs and student and graduate placements, perhaps all linked to innovation centre facilities or specialist R&D centres, or an operation offering a range of higher level skills interventions.

Smart Specialisation

R&D and innovation investments in the 2014–2020 programme will be expected to align to Smart Specialisation priorities. Smart Specialisation is an EU concept which essentially suggests that regions should develop their R&D and innovation activity based on what they are best at and where they have particular competitive advantage or niche markets within sectors, technologies and supply chains. Universities are well placed to contribute to this approach as their researchers are often well-networked nationally and internationally, with links to global businesses.

Collaboration across boundaries

LEP area partnerships are being encouraged to join forces to collaborate across LEP boundaries rather than commission small-scale, stand-alone activity. This could be particularly desirable for universities, for example in knowledge exchange schemes. Thanks to a single programme for England, university

activity which crosses LEP boundaries should be eligible for support (a very tricky issue during the 2007–2013 programme) and local funds can be spent through organisations from outside the area to which they are allocated. On this point, it is likely that LEP area ESIF committees will want to ensure that their investment has maximum impact within their LEP area: CLG will try to broker collaboration between LEPs where this seems sensible, but local committees will have the final say.

New opportunities and different approaches

The new programme is built around 11 thematic areas, with five main national priorities for the next programme (on which the bulk of the money will be spent):

- Research, development and innovation
 - Support for SMEs
 - Low carbon
 - Skills
 - Employment and social inclusion
- The Growth Programme will open up

opportunities for universities for projects which have not been the focus of previous programmes in much of the UK. These include:

- Collaborative postgraduate programmes: PhD and Masters programmes, jointly funded by universities and SMEs. This is a proven and effective way of getting SMEs to begin to engage in R&D and ESIF might commission these programmes in areas where the local business base needs to be stimulated to increase levels of innovation.
- Social innovation: working with social enterprises and engaging civil society in innovative ways to tackle social and community challenges. Universities are already strongly engaged with key sectors including health, social care, housing, education, employment and similar areas and their role as anchor institutions is as important in social innovation as it is in economic and business innovation.
- Student enterprise and employability: helping students take their place in the economy, especially

How the ESIF process works

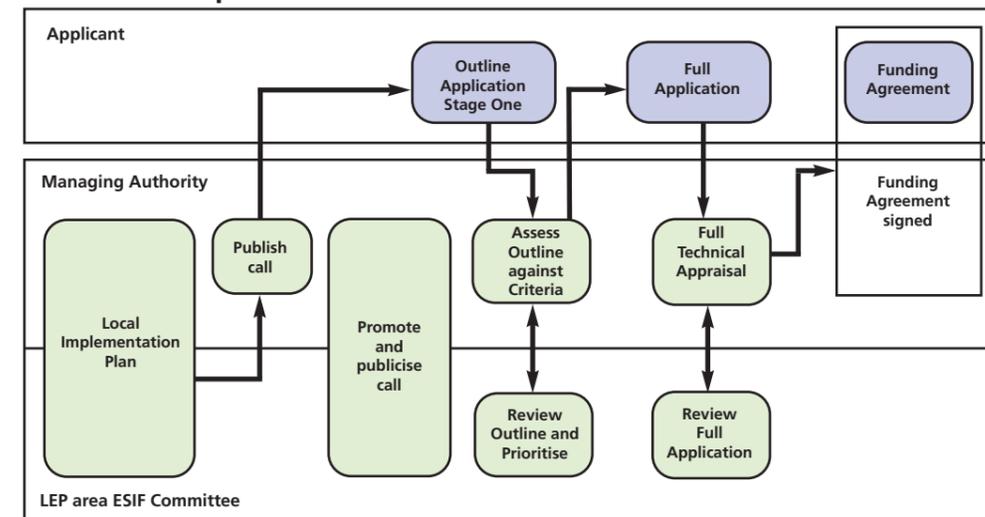


Figure: Department of Communities and Local Government

in the local economy, is already a central focus for most universities. Building a graduate workforce is a key issue for many LEPs and the new programme will help to support this objective through a wide range of initiatives from driving the involvement of local SMEs in project and placement activity to creating additional employability modules for students, resulting in a better-skilled workforce aligned with the needs of the local labour market.

- Widening participation and higher level skills: social inclusion and mobility are issues which most LEPs acknowledge but few clearly address. The new programme offers universities opportunities to help

address these issues in innovative ways. Higher-level skills, especially for under-represented groups, is another area in which universities are uniquely well-placed to address LEPs' concerns.

- Building a low carbon economy: working with businesses and civil society to develop low carbon solutions and encourage their take-up. Universities have uniquely important contributions to make in these areas, from technology transfer to encouraging innovation in product design and communication, taking an holistic approach from R&D to skills development and specialist support for businesses.

Some 'health warnings'

This is not a technical guide. CLG, England's managing authority for the next programme is finalising with the EU Commission how the programme will run and is issuing periodic guidance (search online for DCLG ESIF).

- At the time of writing, the Partnership Agreement and Operational Programmes (defining the content and management of the next programme) have not been agreed between the UK Government and the EU Commission. Although a clear direction is evident, the detailed shape of the programme may change.

Technical issues

Although this guide does not focus on technical issues, some will have a direct impact on universities. Key changes from the current programme include:

- Increased use of flat rate and unit costing and simplified cost methodologies: in previous programmes, budgets were based mainly on actual costs, meaning that EU funding teams in universities were required to account for every single item of expenditure, including that which was incurred indirectly by the university, and trace it all through to actual evidence that the money had been spent, which proved time-consuming, onerous and in some cases simply impossible. This method of accounting for costs is cumbersome and expensive, with some costs irrecoverable and the risks of compliance errors high, discouraging some institutions from involvement with ESIF. Too often, particularly with smaller projects, the

burden of bureaucracy outweighed the beneficial impact of the project. The new programme will offer the option of working with flat overhead rates or unit costs per output, which should remove many of the previous barriers: this choice can be made on a project-by-project basis. Although in some cases it will theoretically mean universities cannot include as high overhead rates as they would calculate on a full cost basis, this may be more than offset by the irrecoverable costs and risks of the old model.

- Standard and simplified output indicators: the requirement to measure GVA at project-level has been removed. Instead, some of the simple output indicators which might be particularly applicable to university-led projects include the number of:
 - enterprises co-operating with research institutions
 - enterprises supported to introduce products which are new to the market or new to the firm

- participants on ESF-funded activity

This greater alignment of the programme outputs with the real and measurable activity in which universities are engaged should be attractive to institutions. However, it will bring with it a need to clearly demonstrate the higher added-value of university work with business which tends to be more intensive, and hence more expensive, than some forms of general business support or lower-level skills delivery.

The important thing to remember is that the national programme as laid out in the Partnership Agreement and the Operational Programmes only say what the programmes are **allowed** to fund. It is the local area partnerships who will decide the priorities for what will actually be commissioned in each area, so a strong relationship with these bodies is paramount. The figure on page seven sums up the complementary roles of LEP area ESIF committees and the managing authority in managing the ESIF programme.

Universities UK (UUK) run a LinkedIn forum which communicates the latest developments and consultations relevant to the universities sector.

- This guide focuses on the programme in England: Scotland, Wales and Northern Ireland have their own arrangements which are different, although there are significant overlaps in the ways in which universities can contribute. Universities in Wales and Scotland have some particularly relevant experience of project delivery in the current programme period which is included in this guide.

- As the final shape of the programme emerges, the technical aspects of EU funding (eligibility, compliance, methods of costings and more) are being developed. This guide does not deal with these technical issues as it is aimed primarily at people who are leading projects rather than at EU funding specialists.



The role of universities in European Structural and Investment Funds

Universities have three distinct roles in the EU Growth Programme

As strategic partners

Many universities are represented on LEP boards and working groups and some have seconded staff to LEP teams preparing ESIF strategies. Some, for example in Manchester, are taking a lead on developing whole areas of the ESIF strategy, working with a range of other partners, and this means that the local partnership is able to take full advantage of the University's knowledge and expertise. Occasionally, these roles have the potential to lead to a conflict of interest, where a local partnership is considering a specific investment proposal which the university could deliver, but this will be taken care of by the CLG business process so LEPs can still include universities in full engagement at strategic level. In the many cases where a LEP area includes more than one university it is helpful either to have all institutions engaged, where practical, or to have a formal mechanism to ensure that the contributions of all local university partners can be fully harnessed. This tends to be achieved through regional or local partnerships or through a memorandum of understanding between institutions. This model is not perfect: it does not remove the need for bilateral dialogue between LEP area ESIF committees and each university, and there will from time to time be differences of view between university partners just as there are within a local business community. But the partnership

approach provides an open and transparent basis for engagement between the whole university system and LEP area ESIF committees, and this guide commends it as a model.

Good practice examples: Yorkshire Universities has been supported through ERDF technical assistance to develop a range of project ideas for its LEP areas for the next programme including research, innovation and skills initiatives, linked to priority areas.

The Combined Universities in Cornwall was funded by ERDF and ESF during the Convergence period to support a small partnership team responsible for programme development and liaison. The chair of the CUC partnership sits on the LEP board and leads its work on innovation. Coventry University has been part of the ESIF drafting group for the LEP and has seconded a senior member of staff to the LEP to work on programme development. Lancaster University is leading a national piece of work to develop the second wave of new Growth Hubs.

As providers of economic intelligence

In ESIF preparation, some universities have used their research teams to provide high-quality local economic intelligence to LEPs, continuing the function of the former regional observatories – many of which were university-based – and working in tandem with local authority

economic intelligence units. Some also provide support in programme monitoring and evaluation, for example conducting regular local business surveys or monitoring the impact of particular programme initiatives.

Good practice example: many universities in England have research units focusing on regional economic growth and working closely with local and regional partners; examples include Lancaster, Sheffield, and the IPPR North initiative at Newcastle and Manchester. Cardiff, Strathclyde and University of the Highlands and Islands are also active in Wales and Scotland respectively.

As deliverers of operations

Especially in areas where small businesses predominate and there are no major corporate players to 'anchor' key sectors or technologies or to attract external investment, LEP area ESIF committees can look to universities to provide critical mass and long-term commitment to lead key delivery initiatives.

Universities we spoke to during the preparation of this guide emphasised their long term approach to the areas they serve, often finding ways to continue the delivery of key services after the initial revenue funding has come to an end. One put it like this: "If the ESIF partnership buys revenue-funded business support from a provider outside the local area, then once the funding stops so will the

support. Once it's set up, a university centre will draw in funding from other sources to sustain sharing its expertise with local businesses in the long term". It is important that universities get this message across to local partners and encourage them, where appropriate, to include long-term sustainability as a selection criterion when commissioning ESIF projects.

Key aspects of good practice

Strategic fit

All those who shared their experiences during the preparation of this guide were very clear about the reasons why universities should – and should not – get involved in EU funding. They cautioned strongly against taking on an EU-funded project purely on an opportunistic basis, bidding to do something simply because the money was there. Such projects tend not to be sustained after the life of the funding, either ceasing operation or shifting focus (for example, a building created for an outward-facing focus becoming an academic facility). Successful and sustainable projects tended to be those that had a clear rationale in terms of the university's vision and development plans.

Good practice example: Lancaster and Coventry Universities have made extensive use of EU funds to build strong platforms for knowledge exchange, SME engagement and student enterprise. In both cases, a portfolio of projects over time has helped the institutions create a critical

mass of activity which can be sustained in the long term. This work is central to the way in which each institution wants to position itself in the market and in its local economy.

Partnering, not bidding

The mind-set – reflected in the language – is important: universities which approach EU funding as a pot of money which can support their projects tend to struggle, encountering sceptical attitudes and technical barriers often leading to very long timelines from conception to funding agreement. On the other hand, a university which has genuinely engaged in understanding local needs and opportunities, and then co-creating solutions to these challenges with other willing partners and with the LEP, is likely to find the process a lot smoother – and the impact much greater.

Good practice examples: University of Huddersfield's 3M Buckley Innovation Centre has played a key role in the regeneration of an important part of the city centre with significant potential to lead and inspire future regeneration nearby. The University of Exeter Environment and Sustainability Institute in Cornwall emerged from a lengthy process of structured dialogue between the Convergence programme and the University. A commissioning group was established with local and national sector experts supported by a detailed scoping study to clarify the precise areas of investment that would best support the future economic growth potential

of the local area while also offering academic research and teaching potential to draw in future funding.

Multi-level engagement and communication

No EU-funded project is the work of a single individual. There are many people involved at different stages and in different roles, on the university side, from the business community and from the bodies which manage the funds. University involvement will range from the Vice-Chancellor (who may also be a member of the LEP Board) to the Deputy- or Pro-Vice Chancellor with lead responsibility and on to a range of academic experts, project managers and EU funding specialists. A clear strategy for multi-level engagement, with tight project management and good communications between everyone involved, is a vital ingredient to success. It is particularly important for university leaders to direct and manage their teams so that the whole university presents a consistent view to external partners from concept through to delivery.

Supporting innovation: research and development programmes and innovation centres – an overview

Innovation forms a central element of the 2014–2020 European Structural Funds programmes and the UK Government emphasises the need to maintain competitive advantage, supporting collaborative action to help businesses commercialise their ideas and providing the physical infrastructure needed to strengthen research, technological development and innovation.

Innovation forms an important part of LEPs' European Structural and Investment Fund Strategies (ESIFs) submitted across the country. Almost 20% of the total ERDF is allocated to this priority in England, making it the second largest in the programme at just over €712m for 2014–2020. As examples, it accounts for 21% of forecast ERDF spend in the Sheffield City Region, 17% in the Leeds City Region, and 10% in the Humber.

There are also opportunities for innovation to represent a significant theme in the delivery of other elements of the programmes, for example in supporting the shift towards a low carbon economy in all sectors and promoting climate change adaptation, risk prevention and management, where these strands form part of agreed programmes. Universities wishing to contribute to the delivery of ESIF strategies for research and innovation will want to consider carefully how their activities can make the biggest impact on the

specific outcomes targeted by the programme:

- Increase the number of small and medium enterprises innovating to bring new products and processes to the market
- Increase collaborative research and innovation between large enterprises, research institutions and public institutions to improve small and medium enterprise commercialisation

These outcomes are subtly different from the strategic drivers of research and development in the HE sector – they do not focus on research per se but on its potential impact on business innovation. Universities which report productive dialogue with their LEPs and ESIF teams tend to have grasped this distinction and to be able to demonstrate clearly how a particular investment would help meet the programme's objectives. Simply arguing for investment on the basis of research excellence misses the point of what an ESIF sets out to achieve; LEPs will ask themselves how an investment will lead to an increase in business innovation in their area and universities which can help answer this very clearly tend to be those who have the best and most productive relationships with their local partners.

This does not mean though that ESIF research and innovation activity is peripheral to university research

strategies. The Research Excellence Framework considers the reach and significance of research impacts on the economy, society and culture: projects which contribute to ESIF strategies are likely to make a strong contribution to the university's evidence base of the economic impact of its research. This is important for both universities and local partners to understand: it is not somehow wrong for universities to benefit from working with ESIF at the same time as delivering programme targets. The best and most sustainable delivery projects are those which benefit both the programme and the delivery partner.

Smart Specialisation forms a central theme of the innovation strand for the new European programmes. The Smart Specialisation approach requires EU member states to identify and focus their knowledge-based investments on the distinct strengths and comparative advantages of regions to justify value for money in public investment. The UK Government approach is set out in the draft Smart Specialisation strategy submitted to the EU Commission in August 2014 which is substantially based on the evidence presented in the Witty review of 2013.

LEP area ESIF committee proposals for research and innovation investment will be tested against this strategy, and universities have the

potential to be strong allies with the committees in making the case for investment based on clear research strengths and local commercial potential.

The expertise of universities across the country means that they have a key role to play in delivering the research and innovation priority. This section of the guide focuses on two core areas in which universities have a strong track record of contributing to the current and previous ERDF programmes:

- Creating research and development centres of excellence
- Developing innovation facilities and centres.

Lessons from the previous programme and opportunities through the 2014–2020 programmes are outlined at appropriate points within each section.



Research and development is the engine which drives economies. New ideas keep the UK moving forward and universities are some of the most important breeding grounds for growth.

Businesses which engage with innovation grow twice as fast as other businesses¹.

Supporting research and development

EU Structural and Investment Funds do not fund research and development for its own sake: ESIF may be invested in R&D but only as a means to the end of economic and business growth in the places on which the funds are targeted. Projects must therefore be set out in terms of their ability to generate business growth and not research excellence.

Allocation of EU funds will also be guided by Smart Specialisation so universities need to understand the Smart Specialisation approach both locally and nationally and identify near-market research capabilities that match a LEP area's potential competitive advantages in order to stand the best chance of success. This is relatively straightforward in geographies with strong local economic performance built on existing clusters of knowledge-based activity, for example

- automotive engineering in the West Midlands
- advanced manufacturing in Sheffield
- aerospace and composite materials in Bristol
- graphene in Manchester
- agritech in York
- nuclear power in west Cumbria
- health technologies in Leeds
- offshore renewables in the Humber estuary.

In all of these cases, commercial clusters led by significant global players are co-located with university research centres of excellence which attract significant Research Council and European research investment. It

is relatively easy to identify next-steps investments in research which will best strengthen these thriving industry clusters and reinforce the competitive advantage of these places. There is also the opportunity for joint planning at LEP level for Horizon 2020 activities, building on the strength of ESIF investment and partnership.

It is harder to identify R&D investment priorities in LEP areas which have a lower national profile in current research-driven economic activity or which do not have stand-out commercial strengths on which to build knowledge-based clusters. One solution is to step back from significant R&D investment and focus instead on technology transfer and knowledge exchange through the kinds of projects exemplified elsewhere in this guide.

This strategy is likely to have an incremental rather than a transformational impact on the local economy, but is also lower risk and if put into practice on sufficient scale can still make a significant difference in the long term. Another approach is to look in detail at the knowledge supply chain in the most competitive global markets and identify particular pockets of excellence where local SMEs and universities can combine forces to gain positions of commercial niche leadership. University research teams which are well connected with their local R&D-intensive SMEs can be a good source of advice to LEP area ESIF committees on where these

areas of niche potential lie, as qualitative rather than quantitative intelligence is required.

A. Overview of existing projects

Universities delivered a wide range of R&D activities in collaboration with businesses through the 2007–2013 programmes. All the projects we looked at have considered how universities can best engage and share their knowledge and expertise with industry leading to the development of new products and services. A combination of technology push (provided by HE) and technology pull (provided by industry) has helped drive innovation. Some have delivered purely revenue support (for example paying research staff salaries and allowing postgraduates to be placed in industry to work on projects) while others have built and initially operated new research facilities until mainstream research grant funding reaches sustainable levels. The scale and nature of ERDF awards made under this component of the 2007–2013 programmes has been diverse but tend to be substantial investments. Examples include:

- £23m awarded to the University of Manchester-based £61m National Graphene Institute
- £8.2m invested in the £16.4m European Bioenergy Research Institute at Aston University
- ERDF contribution of £4.8m to the £9.6m Design Prototyping and Testing Centre developed as part of the University of Sheffield's Advanced

Manufacturing Research Centre (capital and revenue)

- £21.4m towards the £29m University of Exeter's Environment and Sustainability Institute (capital and revenue)
- £4.9m into the Centre for Global Eco-Innovation, a joint venture between the Universities of Lancaster and Liverpool and international commercialisation consultancy Inventya
- £9m of ERDF invested in the National Composites Centre at Bristol Science Park, a £25m total investment led by Bristol University as part of the High-Value Manufacturing Catapult

In most of these cases the investment has funded a mixture of buildings, capital equipment and staff capacity for an initial period.

There is also a much larger suite of ERDF investments which build on established research centres and where the ERDF contribution has funded collaborative research initiatives with industry but not the setup or core costs of the centre.

B. New opportunities under the next programme

Innovation is a central theme in the new European programmes. Supporting regular and coordinated R&D activity between universities and industry is expected to form an important element of delivering this agenda, providing potential to support businesses from a range of sectors and varied previous

WHY?

Why should I think about a research and development programme?

From the HEI's perspective

ESIF represents a major opportunity to boost local and regional economies through the development of near-market research, both as capital for development and as revenue funding to support initial operations until mainstream research income begins to flow. It particularly offers the scope to grow additional or new research capability which has a focus on the needs of businesses, which is much harder to achieve through funding awarded on the basis of existing research excellence.

From the LEP's perspective

Well-connected university research centres can carry out business-focused development work without commercial funding pressures, and can access sources of funding not normally available to industry. R&D investment on this scale is effectively an inward investment exercise which can take significant time to generate a return. Investment in a university-based research centre is likely to have a local impact in the long term, and can act as a nucleus for a cluster of specialist high value SMEs

From the SME perspective

If a technology-focused business wants to be part of the supply chain in a knowledge-based industry like aerospace or advanced manufacturing, it needs at the very least to access cutting edge R&D and preferably to play some role in developing new ideas and technologies in its own value chain. For example, Sheffield's Advanced Manufacturing Centre is at the heart of a cluster of large and small manufacturers, which effectively use the Centre as an outsourced R&D department.

experience of R&D activity. Industry-led growth also fits with national policy direction.

All the R&D projects we looked at involved capital expenditure but also had significant element of revenue funding. In the next programme we

might expect an increased focus on revenue since projects are expected to support universities to share their expertise with industry, facilitating innovation and eventually the introduction of new goods and services that commercialise research. The main opportunities are expected

Biorenewables Development Centre (BDC)							
Lead partner and other partners	BDC (lead), University of York and Science City York						
Project aims and objectives and target beneficiaries	<p>To help businesses develop ways to convert plants, microbes and biowastes into profitable biorenewable products, using cutting-edge science and technology to develop and scale up new greener processes and products.</p> <p>To establish Yorkshire and Humber as a region with a strong bioeconomy sector building upon existing strengths in academia, business and agriculture.</p> <p>Beneficiaries: bioeconomy sector SMEs within the Yorkshire and Humber Rest of Region area.</p>						
Project timetable	October 2011–June 2015						
Project value and funding sources	<table border="0"> <tr> <td>ERDF</td> <td>£4.4m</td> </tr> <tr> <td>Match (BIS)</td> <td>£2.5m</td> </tr> <tr> <td>Total</td> <td>£6.9m</td> </tr> </table>	ERDF	£4.4m	Match (BIS)	£2.5m	Total	£6.9m
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Total	£6.9m						
Outputs/targets	<p>Targets 150 SME business assists, 132 jobs created, 45 jobs safeguarded, 12 businesses created, £9m increased GVA, 26 capital grants of up to 64% of project value</p> <p>Achieved BDC has worked with over 150 businesses and delivered 80 business assists with a further 80-90 projects in the pipeline that are forecast to deliver project targets</p> <ul style="list-style-type: none"> • 9 capital grants have been awarded for a total value of £320k • Two-day workshops introducing businesses to opportunities in the bioeconomy are being delivered as part of the project 						
Innovation	<ul style="list-style-type: none"> • Scale-up equipment and other lab-based facilities allow BDC to deliver broad range of very practical business assistance support – desk and lab-based – to help businesses rapidly evaluate the development of new processed and products that use bio-based raw materials. • BDC team is made up of individuals with a very broad range of biological, chemical, environmental and business development expertise and can offer a comprehensive support service for SMEs in the bioeconomy sector. 						

to focus on identified areas of Smart Specialisation, as set out in ESIF opportunity. The national Smart Specialisation strategy is an important guide here and will be taken into account when areas propose R&D investments.

C. Experience from previous programmes

The experiences of universities that have already bid for, secured and delivered ERDF-supported R&D projects provides a valuable source of intelligence to institutions planning to bid under the 2014–2020 programmes. Below we outline some of the experience highlighted by a sample of university-led projects identified in our research and workshop programmes.

Vision, aims and stakeholders

The purpose of R&D interventions has been to improve the competitive position of the UK and its regions through the identification and testing of new applied research, most commonly in the fields of materials and technologies. University-led projects have brought together the expertise of their researchers and the skills and knowledge of industry to accelerate the R&D process and allow real applications to be tested.

Objectives of projects supported to date include:

- To increase levels of collaborative working with industry
- To create networks that can achieve greater benefits than the sum of their parts

- To create an environment that is welcoming to industry and responsive to its needs
- To support the transition of new technologies and materials from research to the marketplace.

Although these are research

investments most of the aims are expressed in terms of their impact on business engagement in R&D rather than pure research outcomes. There are important lessons about messaging and presentation here for universities.

Nanofactory																						
Lead partner and other partners	Universities of Leeds (lead), Bradford, Huddersfield, Sheffield, Sheffield Hallam, York																					
Project aims and objectives and target beneficiaries	To engage with regional SMEs to considerably increase and promote high-technology innovation opportunities to help build the knowledge economy of the future within the region and begin to generate substantial economic benefits. Target beneficiaries, SMEs in Yorkshire and Humber.																					
Project timetable	4.5 year project split into two main contracts May 2009–April 2011 and May 2011–December 2013, then extended until March 2014. Planning: from February 2008 Start date: 1 May 2009 Contract signed: November 2009 Contract extensions: April 2011 and December 2013 Operational end date: March 2014 Reporting end date: December 2014																					
Project value and funding sources	Total value £4,598,080 (all revenue) ERDF £2,511,834 Match funding £2,086,246 Intervention rate 54.63% Match funding from partners derived from wide variety of sources including staff time, HEIF and EPSRC.																					
Outputs/targets	<table border="0"> <thead> <tr> <th></th> <th>Targets</th> <th>Nov 2013</th> </tr> </thead> <tbody> <tr> <td>SME assist</td> <td>82</td> <td>59</td> </tr> <tr> <td>of which environmental</td> <td>17</td> <td>13</td> </tr> <tr> <td>Jobs created</td> <td>90</td> <td>24.4 FTE</td> </tr> <tr> <td>Jobs safeguarded</td> <td>35</td> <td>7.6 FTE</td> </tr> <tr> <td>Increase in GVA</td> <td>£6m</td> <td>£2.4m</td> </tr> <tr> <td>Businesses created</td> <td>6</td> <td>4</td> </tr> </tbody> </table>		Targets	Nov 2013	SME assist	82	59	of which environmental	17	13	Jobs created	90	24.4 FTE	Jobs safeguarded	35	7.6 FTE	Increase in GVA	£6m	£2.4m	Businesses created	6	4
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Innovation	<ul style="list-style-type: none"> • A very ambitious collaborative project involving multiple partners with a specific technology focus which built upon an existing RDA funded collaboration. • 'Platform technology' focus, rather than sector specific which is perhaps more normal, was a departure for ERDF-funded projects at the time of contracting. 																					

The case study institutions' experience was that the bigger the scale of the project, the easier it was to convince other stakeholders of its worth. Participants strongly advocated a clear strategy of focusing on just one or two major ERDF research initiatives which are attractive to both the institution and local partners, rather than attempting to gain support for low level investment in a broader range of desired areas.

Many projects have been led by a single university although there are examples of universities working together to achieve common aims, for example six Yorkshire universities working together to deliver the Nanofactory and the Universities of Lancaster and Liverpool working together on the Global Centre for Eco-Innovation (together with a leading technology consultancy in this case to provide business support services). Although all projects were university led, the importance of engaging commercial stakeholders at an early stage was highlighted by a number of projects. This had helped universities to demonstrate the commercial applicability of the proposed research and ensure they had support to deliver plans once applications had been successful.

Match funding

R&D projects supported under the 2007–2013 programmes drew on a variety of sources of match funding including university contributions and private sector investment, although

there are recognised challenges to securing the latter. ERDF has usually provided the final element of the funding package with project sponsors emphasising the need for clarity surrounding approaches to ERDF funding. In the case of the National Graphene Institute, substantial UK and European research investment to create the Institute had already been secured at the point at which the project sponsors (University of Manchester) approached ERDF, focusing the investment as an additional capital facility. This avoided the complexity of identifying and evidencing research collaboration outcomes which had taxed other projects.

Contributors to our research were clear that, for research facilities, securing Research Council, HEFCE and even Horizon 2020 funding was significantly more straightforward than securing ERDF. It was also noted that HEFCE Higher Education Investment Funding (HEIF) and Catalyst funding were seen as important sources of match for R&D projects in the next programme period.

As an example, in the Cornwall and the Isles of Scilly Convergence programme a strategic approach was taken to the whole research investment package in 2007–2013, enabling universities to work with the RDA and HEFCE to agree in principle a collective match funding package for a suite of investments. Within this, each match funder was

Environment and Sustainability Institute																												
Lead partner	University of Exeter																											
Project aims and objectives and target beneficiaries	The Environment and Sustainability Institute leads cutting-edge, interdisciplinary research into solutions to problems of environmental change. The interdisciplinary themes cover clean technologies, the natural environment, and social science and sustainability. It has a dedicated knowledge exchange team, engaging with SMEs in Cornwall.																											
Project timetable	Project design commenced November 2009 – Project completion August 2012																											
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Other metrics	Research awards generated by ESI academics : £12m to date																											
Innovation	<ul style="list-style-type: none"> • Interdisciplinary structure of project and team • Proactive nature of business engagement programme in Cornwall, and the different modes of engagement tested including cluster working, 1:1 engagements, supply chain engagements • Engaging businesses with social scientists and creative practitioners (the Creative Exchange Programme) 																											

able to tailor their contribution to those elements offering the best fit to their particular remit. Although each project was appraised as a separate initiative, being able to consider them together gave more weight and coherence to the match funding. The ability of universities to offer their own match funding to the 2014–2020 programmes is anticipated to be an important asset that universities can bring to the ESIF table. This will also simplify the process quite substantially, reducing previous difficulties in trying to align ESIF deadlines with those of other funding bodies.

Delivery issues

Universities have already learnt a number of lessons from the delivery of ERDF-supported R&D projects. Key messages identified in the case studies we examined include:

- Academics are not best placed to become experts in ERDF. All our projects emphasised the importance of having European funding experts to manage the interface between academics and ERDF funds, to have a clear understanding of the fund's requirements and to ensure that the project is effectively delivered and monitored in accordance with agreed funder parameters, including the crucial areas of compliance and audit. The funding team need to manage expectations within their own institutions carefully, particularly in respect of decision timetables which were invariably longer than academic leaders initially expected. It is also important to consider who is best placed to manage industry

engagement: this may be an academic role but may be best managed by others.

- Balance academic research and commercial interests. Projects must support industry if they are to be attractive to ERDF, but at the same time they need to deliver strategic research objectives to maintain institutional engagement and hence long-term sustainability. The aim of major R&D ESIF investments is to establish research capacity which will then prove sustainable into the long term through mainstream funding, after the ERDF subsidy has ended. For most institutions, this will involve the research centre carrying out a

mixture of undergraduate and postgraduate teaching as well as research activity, with income from taught programmes forming an important part of the overall business plan. Because ERDF cannot fund core undergraduate teaching, great care needs to be taken to separate out any facilities and costs for teaching so that they are not funded through the ERDF proposal.

- Understand the business imperative for R&D. Business needs must be understood from an early stage of a project's development and continue to be tested over time to allow the project to be responsive. This can be achieved from the bottom up, by

National Graphene Institute							
Lead partner	University of Manchester						
Project aims and objectives	Capital build for new potential technology. EPSRC and ERDF will contribute to the cost of constructing and fitting out an applied research facility as well as the purchase of equipment to be used for applied research purposes. The specification of clean rooms and laboratory space exceeds that available on the required scale within the UK.						
Project timetable	The facility is due to open March 2015.						
Project value and funding sources	<table border="1"> <tr> <td>EPSRC</td> <td>£38m</td> </tr> <tr> <td>ERDF</td> <td>£23m</td> </tr> <tr> <td>Total</td> <td>£61m</td> </tr> </table> <p>Match funding from partners derived from wide variety of sources including staff time, HEIF and EPSRC.</p>	EPSRC	£38m	ERDF	£23m	Total	£61m
EPSRC	£38m						
ERDF	£23m						
Total	£61m						
Outputs/targets	BREEAM Very Good (at least 65%) Square meterage of the building						
Other metrics	Progress monitoring meetings with the Estates team, weekly meetings with the NGI team.						
Innovation	Graphene is a potential 'disruptive' technology that could change the face of many industries. Much of the equipment will also be unique in an academic environment in the UK, supporting the creation of a national and European research hub that promotes collaboration in research and commercialisation.						

working with multiple SMEs, or from the top down, by engaging key partners in the area such as a major employer or national or international expert, to explore their needs across the supply chain. This becomes more challenging the more novel the R&D focus of the proposed development. The Environment and Sustainability Institute, for example, went through a lengthy commissioning process with an advisory group including local and national industry experts to provide the underpinning evidence base to support the substantial level of investment committed by the programme.

- Use language that businesses and local partners understand. It is important to present research concepts in language that people can understand to secure engagement and support collaborative working. The investment chain that leads from a research investment to a set of commercial outcomes must be spelled out in a clear and transparent way, and this stage had proved difficult for a number of our case studies. Simple and practical issues such as whether shared areas of a building are presented as space for informal collaboration and networking (which are eligible to be funded) or café facilities (which are not eligible) can be surprisingly important.

- Keep stakeholders strongly engaged from an early stage. This is important to the success of projects, including the initial securing of ERDF and the promotion of the resulting service.

- Be prepared for monitoring. Consider how you will monitor activities and achievements from an early stage and recognise the costs associated with satisfying ERDF requirements. This should become somewhat easier in the next programme as the outputs are rather better aligned to the activities of research programmes, but note that there will still be stringent compliance and audit requirements.

Metrics, outputs and evaluation
Although indicators have differed, R&D schemes have most commonly

been required to report on the number of SMEs assisted, leading to measurement of employment and GVA results and impacts. Examples of outputs relative to ERDF award for a sample of existing projects are included below for reference.

University aspirations for R&D can differ from the metrics typically used to assess ERDF investments. Projects have therefore also applied project-specific indicators where appropriate, for example the Nanofactory team has monitored the number of academics engaged, student internships offered and new grants

Project	ERDF award	Assessment Metrics
National Graphene Institute	£23m	7,626m ² new or upgraded floorspace
Environment and Sustainability Institute	£21.4m	450 businesses assisted 388 gross jobs created £25.1m increase in GVA
AMRC Design Prototyping and Testing Centre	£4.8m	120 businesses assisted 40 Research and Technology Development projects 3,959m ² new or upgraded floorspace 368 gross jobs created 41 research jobs created 98 jobs safeguarded £14m gross increase in GVA
Nanofactory	£2.5m	82 SMEs assisted including 17 environmental companies 90 jobs created 35 jobs safeguarded £6m increase in GVA Six businesses created
Centre for Global Eco-Innovation	£4.9m	235 firms engaged in new collaborations 85 businesses with significantly improved commercial performance 150 new products and services for export 318 jobs created £675,000 private sector leverage £45m additional GVA

won to reflect the partner interests. The primary output measures to assess achievements under the innovation element of the 2014–2020 programmes are:

- Number of enterprises receiving support
- Number of enterprises cooperating with research entities
- Number of enterprises supported to introduce 'new to the market' products
- Number of enterprises supported to introduce 'new to the firm' products
- Private investment match for public support to enterprises

There is a dilemma for institutions here. The cost per output of research investments can look high on paper if these outputs are only considered over the life of the initial capital investment or even the life of the seven year programme. Neither universities nor the ERDF programme teams are enthusiastic about the prospect of very lengthy monitoring periods, for good reason. But the true value of research investments can only be assessed over the long term, considering the value of the permanent asset being created by the investment as well as its short term transactional effects.

Most projects consulted were yet to reach the evaluation stage so it was too early to show clear evidence of impact: typically, the appropriate timescale for meaningful evaluation is longer for R&D projects than other sorts of investments. Findings from interim assessments prepared to date do however identify the following lessons:

- Clear delivery and management responsibilities should be defined to support effective operations
- A range of external factors can have an impact on projects including changes in policy focus and developments in thinking and practice
- A sound client management system allows activities and beneficiaries to be tracked over time; doing this in an integrated way with other programme investments has proved impossible in the 2007–2013 programme because projects have been separately commissioned.

Combining projects into operations in the next programme may make it easier but data sharing will still need

to be treated with care, as well as caution over potential double funding

- Timescales required to achieve employment and GVA targets can be long, with a lag between investment and results being realised (and the added complication of a recession during the previous programme)
- There is a need to offer revenue support alongside capital investment in facilities to ensure that businesses engage and benefit from the project.

Research and development good practice points overleaf

AMRC Design Prototyping and Testing Centre			
Lead partner	University of Sheffield		
Project aims and objectives	A UK centre of excellence in industrial design, prototyping and structural testing, building on South Yorkshire's indigenous industrial base.		
Project timetable	October 2011–September 2015		
Project value and funding sources	Total project value: £9.7m ERDF: £4.85m Match: £4.85m		
Outputs/targets		Target	Actual
	Businesses assisted	120	78
	NRTD projects	40	55
	New or upgraded Floor space	3959m ²	3959m ²
	Gross new jobs created	368	41
	Research jobs created	35	98
	Gross increase in GVA		£14m
Innovation	<ul style="list-style-type: none"> • Established in response to market failure originally identified by leading aerospace manufacturers. • Design expertise directly transferable to advanced manufacturing sectors including aerospace, motor-sport, automotive, medical equipment, and manufacturing very large components, e.g. bulk green electricity supply including wave, tidal and wind generation, oil & gas, marine and transport. • Engineering designers learn best by working alongside other designers, exchanging ideas, challenging concepts and pushing the barriers. 		

D. Good practice points

Our workshop participants identified the following good practice points about ESIF investments in university-led R&D projects:

- ▶ Encourage your LEP to set up an Innovation Sub-Group which brings together universities and businesses who understand innovation and R&D, to advise on strategic priorities.
- ▶ It can be easier to get strategic support for really big ideas than for smaller projects. Focus on one or two compelling initiatives with big impact.
- ▶ Business advocates of your proposal will be more persuasive to LEP stakeholders than academics.
- ▶ Consider forming a Strategic Advisory Board of business leaders to help shape and promote your initiative.
- ▶ Draw on a range of perspectives in developing your project, internal and external to the university.
- ▶ Collaborative leadership will strengthen both the proposal and the delivery stages.
- ▶ Major R&D projects are likely to be delivered in collaboration. The next programme should make it easier to collaborate across LEP boundaries, as long as LEP area ESIF committees are willing. Longstanding or more formal partnerships tend to be more successful than those put together just for a particular project.
- ▶ University R&D projects may offer a low volume of business engagement outputs, but each with

very high potential for growth and jobs. It's important to make this case clearly to programme teams.

- ▶ Any investor has their own priorities and criteria for projects they will support. Really get to understand the national and local ESIF priorities and only propose investments which can make a compelling case. Sometimes it can be best to focus ERDF on just a subset of a bigger project.
- ▶ Support your proposal with strong evidence of business need or business demand. It's worth investing in proper dialogue with business about how your project should be shaped.
- ▶ It is a real strength of universities that they have relationships with global corporate players. Even though they're not eligible for direct support from ESIF, use them to help drive supply chain and technology work with SMEs.
- ▶ Expect the proposal process to take time, and resource it properly. Be extremely careful about key audit issues such as procurement and publicity. Missing delivery targets is not necessarily penalised if there's good reason, but breaching the regulations can lead to big fines.

Innovation centres are places where new thoughts and ideas meet in the corridors. They're places where the coffee rooms are creative powerhouses. They help make connections between things most of us would never think to connect.

Innovation centres help to grow ambitions, create jobs, build wealth and transform economies and they work best when they're directly plugged into the HE knowledge base.

Developing innovation centres

Innovation centres are part of a spectrum, including fully-fledged science parks, business incubators, managed work space, serviced office space and 'grow-on' space. An innovation centre is a physical facility which specifically targets knowledge-based businesses as tenants, businesses whose value rests in their intellectual property and who need research links in order to thrive and grow. Innovation centres may well have specialist equipment or facilities available for tenants and they offer innovation-focused business support around the management of finance, investment and Intellectual Property (IP). Innovation centres can be directly owned and managed by a university, or can be co-owned and co-located with other partners and managed in a variety of alternative ways. Proximity to a university or research campus is an important factor in the success of innovation centres, although they may need distinct business-friendly branding.

A. Overview of ERDF investment in innovation centres

University-led innovation centres have grown rapidly in recent years, supported by investment from ERDF and other sources including the Technology Strategy Board, Regional Growth Fund and investment from the former Regional Development Agencies (RDAs). At their most ambitious, innovation centres bring together academia and the business community to drive new research

through to commercial application, for example Innovate UK's Catapult centres which aim to drive commercialisation in the 'eight great technologies'. But there are also many examples of successful innovation centres supporting product and process innovation within their local business communities, some focusing on specialist sectors, and of centres which operate on a virtual basis without providing business workspace.

There are several routes by which innovation centres have come into being, as shown by our case studies:

- In some cases, for example Sci-Tech Daresbury, there is an opportunity to build a commercial cluster around a key set of research assets or expertise, as part of a wider science park investment. These centres can sometimes attract significant global commercial interest and act as a focal point for inward investment with access to unique and expensive equipment and facilities often acting as a key driver for growth of a specialist cluster

- In other examples, such as the Centre for Eco-Innovation supported by the Universities of Liverpool and Lancaster or the Marine Innovation Centre at the University of Plymouth, there is a very particular set of academic expertise which the innovation centre can successfully link with key businesses and specialist SMEs. These centres do not always

include physical incubation space for businesses but investment often includes the creation of new assets which businesses can access to develop new technologies and methods

- Other innovation centres are open to a more diverse range of tenants and businesses, and have been established in places where there is an opportunity or need to stimulate higher levels of business innovation and knowledge-based commercial activity. These might be in high-performing locations where the centre is likely to experience strong demand for its incubation space and specialist advice and support – the SETSquared centres in Bristol, Bath, Exeter and Southampton – or in less developed regions where the centres have an important outreach role in stimulating innovation and acting as a hub for national and international support and investment such as the university-led innovation centres in Cornwall and the Highlands and Islands in Scotland.

These examples illustrate the very wide range of innovation centre now in existence. The lesson for universities and LEP area ESIF committees exploring this type of investment is the need to be very clear about where on this spectrum any particular initiative is intended to lie, and to develop the scope and funding of the project accordingly.

Although many universities are now partners in some form of innovation

centre initiative, by no means all have been supported through ERDF: in some cases sufficient ERDF funding was not available, in others the local property market was strong enough to attract private sector investment and in many cases universities and LEP area ESIF committees have used other funding sources – principally the former RDA single pot and the Regional Growth Fund – which are perceived to be easier to access and to involve less bureaucracy.

Nonetheless there has been a broad range of ERDF investment in innovation centres under the 2007–2013 programmes. Examples include:

- £5.8m towards the £8.7m 3M Buckley Innovation Centre developed by the University of Huddersfield (capital and revenue)
- £28.8m towards total investment of £38.4m in three innovation centres in Cornwall – Pool Innovation Centre in Pool, Tremough Innovation Centre in Penryn and the Health and Wellbeing Innovation Centre in Truro run by Plymouth University (capital and revenue)
- £2.7m into the University of Bradford Re:centre, total investment of £6m with additional contributions from HEFCE and the University of Bradford
- £0.9m towards the £2.0m Marine Innovation Centre (MaRIC) for Plymouth University (all revenue)
- £1.1m towards the initial investment in the Daresbury Science and Innovation Centre, establishing the Daresbury SciTech campus.

WHY?

Why should I invest in an innovation centre?

From the HEI's perspective

Innovation centres are a great way of delivering local and regional economic impact and innovation in a business community. Specialist innovation centres with a particular technology or sector focus can be useful adjuncts to a research centre, bringing in leading edge businesses to the knowledge exchange and research community, and can support student, graduate and staff entrepreneurship and collaborative PhDs.

From the LEP's perspective

Well-managed innovation centres with strong research links are hubs for knowledge-based start-ups and can generate amongst the highest SME growth rates of any business support investments with a potential for creating new, high-value businesses and graduate-level jobs. After a short start-up period, innovation centres should be able to become financially self-supporting through rental income without long-term revenue subsidy, meaning that the long-term return on investment can be excellent. Many innovation centres offer specialist innovation support to non-tenant businesses across their local area, and lead outreach initiatives to raise the profile of innovation across the wider SME community.

From the SME perspective

Being an innovation centre tenant means you're part of a community which knows and understands what being a knowledge-based business is like, and brings quick and easy access to advice on everything from funding specialists to IP lawyers. Mentors, collaborators and business networks are close at hand and being part of a critical mass of investable businesses brings real advantages in attracting the attention of venture capitalists and angel investors. Survival and growth rates of innovation centre tenants well exceed that of the general business population. Non-tenants can benefit too, through events, briefings and networking.

Although this campus and centre have not received further direct investment in the 2007–13 programme, several associated projects have been supported totalling around £8.5 million. The Centre for Global Eco-Innovation (Universities of Lancaster and Liverpool) was also initiated at

Daresbury and received support of £4.9m from ERDF
 • £6.7m towards the new £89m Technology Innovation Centre at the University of Strathclyde, with contributions of £26m from Scottish Government and £57m from the University

Cornwall Innovation Centres													
Lead partner	University of Plymouth (centres owned by Cornwall Council)												
Project aims and objectives	To make a significant improvement in productivity, increase the rate of innovation and increase the overall number of high-value-added companies in Cornwall. High-quality accommodation for strong growth potential, knowledge-based businesses. Tenants selected for potential, ambition and ability to contribute to the success of the project. Tailored package of specialist support services to help their businesses survive, thrive and grow.												
Project timetable	Start date: April 2010 (capital) Start date: January 2011 (revenue) End date (financial): 31 December 2014 End date (reporting): 31 December 2015												
Project value, funding sources	Capital: ERDF £28.6 Other £8.6m (RDA and Council)												
Outputs/targets	<table border="1"> <thead> <tr> <th></th> <th>Target (2015)</th> <th>Actual (June 2014)</th> </tr> </thead> <tbody> <tr> <td>Business assists</td> <td>251</td> <td>118</td> </tr> <tr> <td>Gross new jobs (FTE)</td> <td>438</td> <td>210.1</td> </tr> <tr> <td>Net additional jobs (FTE)</td> <td>385</td> <td>50.6</td> </tr> </tbody> </table>		Target (2015)	Actual (June 2014)	Business assists	251	118	Gross new jobs (FTE)	438	210.1	Net additional jobs (FTE)	385	50.6
	Target (2015)	Actual (June 2014)											
Business assists	251	118											
Gross new jobs (FTE)	438	210.1											
Net additional jobs (FTE)	385	50.6											
Other metrics	Qualitative and quantitative data sets from independent client survey. Independent accreditation from UKBI.												
Innovation	Close focus on local business cluster at Tremough: strong uptake from creative and tech sectors based on close working relationships with Falmouth University on gaming, design, etc. and on environment and energy sector with Exeter University and their Environment and Sustainability Institute. Each centre is used as a community 'hub' for local businesses to engage, collaborate and network evidenced through the 25,000+ delegates engaged at Pool Innovation Centre.												

B. New opportunities under the next programme

Innovation remains a headline priority for the 2014–2020 ESIF programme, both at national and local level. Projects are likely to focus on the number of businesses engaged or supported and new products and services introduced as a result, which might encourage a broader range of innovation support with less dependence on physical facilities. That said, a review of the ESIF strategies submitted by LEPs suggests that many still envisage a mix of capital and revenue investment to support innovation. Combining capital and revenue investments also fits with the anticipated shift towards fewer but larger and more strategic investments under the new programmes. The European Court of Auditors has recently completed a review of incubation investments across the EU which identified the following definitive good practice requirements, likely to be scrutinised carefully at appraisal stage:

- Establish a strong connection between the stated purpose of facilities and the nature of the businesses attracted
- Link the facility to an associated offer of business support
- Base the investment on clear evidence of actual or potential demand
- Share best practice between facilities and funders: UK Business Incubation (www.ukbi.co.uk) is one body which helps to facilitate this.

C. Experience from previous programmes

In preparing this guide we have considered the experiences of several universities that have bid for, secured and delivered ERDF investments in innovation facilities. Common themes in the objectives of centres and the ways in which projects have been delivered are considered below to help guide activity under the new programmes.

Vision, aims and stakeholders

A clear vision and aims were established at the outset of all the projects we reviewed, which helped partners to make a clear case for ERDF investment and explain the purpose of their interventions to businesses and other stakeholders. Common aims were to:

- address gaps in the local provision of market-led innovation facilities
- overcome perceived barriers to collaboration between industry and academia
- provide facilities and support that respond to specific industry-sector needs
- support high-potential businesses to innovate and grow.

Our case study participants said that clear strategic commitment from the university is a key ingredient to the success of an innovation centre investment, whether in building consensus with other investment partners, gaining the confidence of the private sector or putting the university's internal resources behind the project. To succeed, it must be

clear to all parties that the university is committed to a long-term role in knowledge exchange and that the innovation centre will not eventually become just another academic building.

We focused our attention in this guide on university-led innovation centres. It is important to acknowledge that this is not the only model: there are several private organisations with a strong track record of innovation centre operation both on and off university campuses, and a growing body of innovation centres which operate on a joint venture partnership basis, including universities and public and private sector partners. The common thread, though, is that for a centre to make a proper claim to be driving innovation, as opposed to simply offering business incubation, it needs to have strong and effective links with the relevant knowledge base for its clients – an innovation centre with no involvement from its local university will face an uphill battle to succeed.

Match funding

As would be expected for ERDF resource, funding applications have been made to secure the final element of projects' funding packages. Facilities developed under the 2007–2013 programmes have drawn match funding from university internal resources, local authorities and the former RDAs. The ability of universities to provide their own match funding could become a significant offer to area partnerships as the 2014–2020 programmes

develop, suggesting that innovation centres which combine business and research facilities may become more common.

While a few new innovation centres and campuses might be supported in the future by national initiatives such as the TSB Catapult programme or Research Council innovation initiatives, it is more likely that in most cases local match either through the Regional Growth Fund, City Deals or universities' own contributions, will be the source of match.

Encouragingly, all of our case study examples indicated that revenue subsidy was only required for a limited period at the beginning of the project, with market rents and fees for innovation services typically covering operating costs after three years. The equivalent finding in the UK Business Incubator annual survey was that 75% of incubation centres were able to cover their operating costs from revenue and fee income. Several of our case studies were achieving fully commercial rents (varying according to local market conditions) including a premium for the innovation service, and all of them dismissed the notion that these centres had to offer cheap facilities to attract tenants (although several gave short low-rent or rent-free periods to pre-start and new businesses).

Most of our case study examples expressed some reservations about using ERDF for projects of this kind, citing concerns over the bureaucracy

of claims and output reporting, with particular concerns expressed at the need to assess GVA impacts at the level of individual business beneficiaries: this concern will not apply to the next programme to the

same extent. Other sources of potential investment were seen as more flexible and less onerous, and were generally preferred where they could be accessed.

Huddersfield Enterprise and Innovation Centre (also known as 3M Buckley Innovation Centre)	
Lead partner	University of Huddersfield
Project aims and objectives	The Huddersfield Enterprise and Innovation Centre (3M BIC) brings together technology-based start-ups, SMEs, multinational corporates and University and graduate ventures.
Project timetable	Start date: April 2010 (capital) Start date: January 2011 (revenue) End date (financial): 31 December 2014 End date (reporting): 31 December 2015
Project value, funding sources	Capital total: £8.7m Revenue total: £1.1m Total expenditure: £9.7m ERDF (60%): £5.8m University of Huddersfield match: £2.6m Kirklees Metropolitan Council match: £1.3m
Outputs/targets (achievements to date in parentheses)	SME assists – 200 (63) of which • 100 are direct aid (33) • 100 are RTD projects (30) • 20 are in the environmental sector (1) New or upgraded floorspace: 3,617m ² (achieved in full) Gross new jobs created: 45 (5) Jobs created, BAME: 4 (1) Jobs created, women: 9 (4) Gross jobs safeguarded: 15 (0) Gross increase in GVA: £26m (£0)
Other metrics	Number of events held at the building Number of attendees at above events Tenant occupancy rates
Innovation	The HE-business engagement model is recognised as unique within the sector and was highlighted in the Wilson and Witty reviews. Establishment of the wholly owned subsidiary as a vehicle for research impact delivery, together with embedded student enterprise incubation within the centre is also unique.

Delivery issues

Universities consulted in the preparation of this guide identified a number of delivery issues that can inform future practice. The key points from the case studies we examined include:

- Staff the centres with the right skills and experience: the lead for an innovation facility needs to be able to understand and communicate with both academics and businesses. Our case studies advocated that commercial experience of developing and leading innovative SMEs was by far the most important characteristic of a successful innovation centre leader and the quality most valued by tenant companies, who tend to look to the centre manager for informal mentoring and support as well as the more technical advice on offer
- Target occupiers: clear entry criteria are required if true innovation facilities are to be created. This can range from sector-specific targeting to more broad-based attempts to identify an applicant's innovation potential (although in many cases, a proportion of space was allocated to businesses which did not match the profile in every respect). Implementing the targeting regime was either left to the innovation centre management team or was overseen by some form of strategy board including funders, businesses and local economic partners
- Get the offer right: innovation centres which include access to specific equipment and facilities should be informed by a clear market

assessment at the outset to establish that these assets are of value to the target SME community. This may require something rather more sophisticated than a simple survey of the existing local business base; if the aim of the centre is to act as a catalyst for new technology-based activity, then a foresight report will be more helpful but these investments will have a higher risk profile for funders.

- Think about branding and location: for some businesses, typically those who are R&D-active and used to dealing with universities, an innovation centre which is university-branded and on a university campus will present no challenges and the easy flow of people and ideas between academic and commercial teams will be a distinct advantage. For other centres which are more focused on outreach and awareness-raising, university branding might be a barrier. Locating an innovation centre within a regeneration zone or at the heart of a planned business district or enterprise zone might be an attractive offer to some LEP area ESIF committees as long as close links with the knowledge base can still be achieved.

- Consider legacy: where capital facilities are created with ERDF support it is important to consider how they will be sustained beyond the funding period. This includes financial sustainability but also how business relationships will be sustained beyond an ERDF support package. Rental and fee income from the centre needs to be sufficient to sustain these services,

hence the advantage of larger-scale operations which can draw in other public sector support more efficiently and offer sufficient critical mass to be attractive to private sector investors and advisors.

Metrics, outputs and evaluation

Projects supported under the 2007–2013 programmes have had to work with a fairly crude set of programme indicators, including the number of businesses assisted and the number of research projects facilitated. Where investment has been earmarked from funding allocated to workspace, floorspace created is also measured. Key performance indicators have also been set internally to allow universities to capture wider achievements and assess progress towards their objectives, although most of these internal measures are not in the public domain.

Under the 2014-2020 programmes, the primary output measures for assessing performance under the innovation thematic objective are better suited to innovation centre operations:

- Number of enterprises receiving support
- Number of enterprises co-operating with research entities
- Number of enterprises supported to introduce 'new to the market' products
- Number of enterprises supported to introduce 'new to the firm' products
- Private investment match public support to enterprises

Universities contributing to this guide emphasised the need to work with funders to assess the quality as well as simply the quantity of the measurable outputs of an innovation centre project. University engagement with innovation centre tenants can go well beyond the benchmark of two days or 12 hours of business assistance used in the 2007–2013 programme, making these interventions look superficially very expensive unless the added value is also taken into account.

It is impossible to generalise from output targets for individual projects because local project contexts vary. Examples of the scale of outputs forecast relative to the level of ERDF award are shown for reference:

Project	ERDF award	Assessment metrics
Cornwall Innovation Centres	£28.8m	Capacity to assist up to 210 businesses
3M Buckley Innovation Centre	£5.8m	200 SME assists, of which: • 100 are direct aid • 100 are RTD projects • 20 are in the environmental sector
Marine Innovation Centre	£0.9m (revenue)	200 businesses assisted to improve their performance of which: • 10 are new enterprises • 20 are environmental tech and renewable energy • 25 are firms involved in collaborative R&D

Some well-established centres have already reported impressive results against these targets. For example, achievements to date in the Cornwall Innovation Centres include average

annual client growth of 46% and 41.25% in the two established centres, and 18.5% in the newest centre in its first year of operation. New jobs created in these three

centres have already exceeded 210. Incubation centre evaluation data available from UKBI shows impressive levels of impact from these types of investments, justifying the level of interest from ESIF area partnerships and universities. Business incubators have an average success rate for start-up tenant companies of 98% compared to a national average of less than 30%, with 87% surviving after five years. Companies graduating from an incubator created on average nine jobs per business in the first year after graduation, at an average cost per job of between £5,000 and £8,000.

Marine Innovation Centre	
Lead partner	University of Plymouth
Project aims and objectives	To significantly enhance and optimise the flow of knowledge and expertise between Higher Education and SMEs in the marine sector. Target beneficiaries: inventors, prospective entrepreneurs, new and existing SMEs, and inward investors looking to establish operations in the South West.
Project timetable	Start: October 2012 Ends: June 2015
Project value, funding sources	All revenue. Total cost of £2m over three years. ERDF £0.9m Plymouth University £0.9m (cash, staff-time and eligible overheads) SMEs £0.2m (50% match for ERDF-compliant Innovation Grant)
Outputs/targets	<ul style="list-style-type: none"> • Number of businesses assisted to improve their performance: 190 • Number of new enterprises assisted (subset of businesses assisted): 9 • Number of environmental technologies and renewable energy enterprises assisted (subset of businesses assisted): 19 • Number of firms involved engaged in collaborative R&D projects (subset of businesses assisted): 24
Innovation	<ul style="list-style-type: none"> • Concentration on outreach and physically visiting companies. • Intelligent brokerage to advance technology readiness balanced with support to achieve sustainable business governance (especially for micro-SMEs). • Strong track record within the team for technology transfer, technology based start-ups, financing and NED experience. Builds trust and credibility quickly. • The outreach team act as translators and brokers, rather than academics.

D. Good practice points

Workshop participants identified these good practice points about university innovation centre projects:

- Innovation means different things to different people; new-to-market innovation is distinct from new-to-firm innovation and needs a different approach. Make sure all stakeholders are clear about the focus a centre is aiming for and that this is spelled out in the proposal.
- Businesses don't always need a new building to support innovation. Consider alternatives including giving them access to university premises and equipment and providing a really strong offer of support and advice. Focus on the evidence of what businesses actually need.
- One thing universities are able to do is take the risk of investing in major pieces of equipment which can

then be made available to businesses as well as used for R&D. Find out if there are particular facilities which businesses need which they cannot afford on their own.

- University equipment which is surplus to R&D needs might still have a real value to SMEs. Do an audit of unused or under-used research equipment and find out whether it still has commercial relevance.
- Innovative businesses need support as well as facilities. Design your project so that it forms part of a comprehensive offer of space, equipment, advice, skills and finance.
- Universities can offer many added-value services to innovative SMEs including access to skilled graduates, collaborative R&D projects and investment finance. Build strong links with the whole university offer, don't get funnelled into a narrow building-based project definition
- Universities may need to explain their innovation centre offer through a clear and compelling marketing strategy, particularly to draw in businesses who may not normally think of working with Higher Education. High value, specialist offers need to be differentiated and will have a niche client base.
- Innovation centres work when they can achieve a throughput of businesses, providing intensive early-stage support. Make sure that innovation centre plans include consideration of grow-on space from the start (whether on-site or part of other facilities) or the centres risk becoming clogged up.

► Innovation centres must target knowledge-intensive businesses. Consider setting up an advisory board to establish and monitor strict selection criteria, and make sure that funding agreements set realistic expectations about the impact this will have on vacancy rates which will be higher than for open market workspace.

- It should be possible for an innovation centre business plan to break-even after a short introductory period (say, around three years). Charge commercial rents from the start, set according to the local market, and don't be afraid to charge a premium for additional services. ERDF may allow the centre to make a surplus as long as this is reinvested wholly in the project.
- Universities and SMEs sometimes 'speak different languages'. Innovation Centre staff must be fluent in both, and able to translate. Above all, they must have credibility with the business community based on their own commercial experience.

Of the 4.9 million businesses in the UK, 99.9 per cent are SMEs, employing an estimated 14.4 million people and accounting for nearly half of all private sector turnover².

Engaging these businesses is a big challenge for universities but one that can pay huge dividends for businesses, for universities and for the nation.

²Department for Business, Innovation and Skills: statistical release, October 2013

Working with small and medium businesses – an overview

The 2014–20 ESIF programmes place a real focus on SME engagement and links between business and academia so the experience set out in this section of the guide will be valuable for both LEP area ESIF committees and for universities.

The strongest factor in the success of the projects we look at here is for interventions to be *designed around the needs of the SME*, not led by the university's capacity: it makes sense for these initiatives to be run as collaborative ventures so that the widest possible range of expert knowledge can be made available. Some of these initiatives also illustrate good practice in universities collaborating at regional level to offer services and support to SMEs.

The projects we considered took a variety of approaches, both in funding and in the way they were organised and delivered. While no single best solution emerged from our discussions, the experiences will help inform how future schemes can operate in different contexts, for example comparing the use of ERDF and ESF or routing funding through the university or directly to the SME to purchase university services.

Successful university engagement with SMEs must be based on a *long-term process of relationship management*, not a disjointed and ad-hoc delivery of individual projects driven by the capabilities of the institution. SMEs consistently say that this strategic relationship is what they most value, and many SMEs have accessed

different types of support over time as they grow and their needs and capabilities change. *SMEs also tell us that they struggle to navigate the support offer*: universities (and others) have responded to this by creating business engagement hubs, in some cases at university or regional level and in others through the Growth Hubs model now being implemented in most of our cities.

SME engagement is an area of work particularly suited to the new programme concept of *bundling projects together into 'operations'*. These operations might be structured to bring together a range of university support under a single funding initiative, for example regional graduate placement and innovation voucher schemes. Future projects might be bundled locally into a range of services offered through a local Growth Hub alongside public and private sector business support providers. We return to this concept in the final section of this guide and give some indications of emerging practice.

This section of the guide examines the lessons learned from the three areas of SME support which have been the most prevalent in the 2007–2013 ESIF round and which we know are of great interest to universities and LEPs in relation to the current programme:

- PhD and Masters programmes
- Innovation vouchers
- Graduate placements

Relevant lessons from Wales and Scotland are included in this section alongside examples from England; Wales and Scotland will continue to have separate ESIF programmes and do not have England's LEP structure so their strategic context is different, nonetheless they share many aspects at project level so can usefully inform plans for the next programme.

For the SME engagement sections dealing with PhDs and Masters programmes, graduate placement schemes and innovation vouchers, we've grouped the best practice points at the end since much of the good practice is applicable to all SME engagement activity. You will find the good practice points on pages 55 and 56.

Collaborative PhD and Masters programmes

WHY?

Why should I think about a collaborative PhD scheme?

From the HEI's perspective

Over recent years, mainstream postgraduate funding has become very challenging so most institutions which are keen to train researchers for industry through PhD and Masters schemes have to find different ways of resourcing this. Research Masters and PhD students are a vital ingredient in building a research base, so additional postgraduate provision is also an important part of the financial model for a research centre. Currently, much HE-supported R&D is with large, often international, businesses. PhD programmes can help to build a local footprint for R&D.

From the LEP's perspective

Collaborative PhD programmes have proved to be a highly effective way to engage SMEs and social enterprises in research and development for the first time, and also supply specialist knowledge and skills from universities to key sectors and technologies in a cost-effective way, as well as helping to build and retain a graduate workforce.

From the SME perspective

A subsidised collaborative PhD programme gives SMEs access to a highly skilled and bright team member, without incurring a long-term financial commitment, as well as providing access to HE expertise through the student's supervisor and the wider university team. PhD students have been described by one of our projects as 'knowledge transfer on legs'.

through ERDF, problems were encountered as the funding was provided for participation in a specific piece of project work, which often constrained the freedom of the student to develop their research (for example, presenting at international conferences, which was not deemed to be eligible expenditure if there was no direct benefit or relevance to the project). Later use of ESF, where the output was the attainment of the PhD

qualification, was more manageable. The broad targets and funding parameters for these Cornish, Welsh and Highlands and Islands schemes are shown in the table below. Note that each scheme was put together on the basis of a detailed cost analysis of the implementation of the programme and, because of the different mixture of activities and levels of qualification involved, direct comparisons are not simple. Some

A. Overview of existing projects

The key feature of PhD and Masters programmes supported by ESIF in the previous funding round is that they specifically require collaboration with an SME or SMEs. This ensures that the subject of the research is of direct commercial interest to the SME and that ESIF investment is focused on economically-relevant research.

Not all regions in the 2007–2013 ESIF programme round have implemented PhD and Masters schemes, but those that have include:

- The Knowledge Economy Skills Scholarships project, led by Bangor University on behalf of the HE sector in Wales, provided over 400 PhD and Masters places, integrated with a high-level skills training programme, leading to a postgraduate Skills Development Award.
- The Combined Universities in Cornwall (CUC) Research Programme also worked through partnership across HEIs and SMEs, funding PhD projects, many of which were collaborative and involved at least two of the CUC partners and a Cornwall-based business, as well as Masters level students.
- The University of the Highlands & Islands (UHI), through its ERDF/ESF package as a Strategic Delivery Body (SDB), funded a small but regionally significant number of PhD studentships in the 2007–13 programmes. When supported

ERDF-supported research and innovation projects such as the Centre for Global Eco-Innovation, covered elsewhere in this guide, have also included funding for PhD studentships as part of a wider package of research development support: our workshop participants offered some reflections on the comparative ease of using ERDF and ESF to support these schemes (see Vision, Aims and Stakeholders below).

B. New opportunities under the next programme

With innovation at the heart of the growth strategy there is the potential for a much greater role for both PhD and Masters provision in the new programmes, *providing they can be shown to have an impact on economic growth and key sectors.*

With the emphasis shifting from process towards a more results and output-driven approach – and the use of strategic operations rather than individual projects – there is an opportunity for HEIs to engage in collaborative work with LEP partners and the broader local partnership. The new programme should also help to build longer-term relationships with SMEs and greater collaboration.

The new programme offers an interesting opportunity for PhDs to be funded either through ESF or through ERDF and the experience in Scotland may inform the approach taken to funding decisions.

C. Experience from previous programmes

Previous experience from universities that have bid for, secured and delivered ERDF and ESF investments in postgraduate schemes represents valuable intelligence in formulating approaches to the next programme.

Vision, aims and stakeholders

Participants in our research all agreed that the development stage is vital and sufficient time and energy must be invested in it, achieving shared and clear objectives and commitment. Key factors for success include full engagement with all partners from the start, a focus on helping partners understand the role of universities and a business-led not funding-led approach. Our case study participants clearly preferred working with ESF rather than ERDF on these schemes. This was essentially for tactical reasons, the view being that it was more straightforward and less risky to account for the individual skills

outcomes required through ESF. This does not mean though that projects were conceived as skills development programmes; on the contrary, building SME engagement with research was the starting point and key motivation for these initiatives.

The case study projects differed in the extent to which academic development was explicitly an aim of the project. In the Highlands and Islands, developing the research capacity of UHI so that it could achieve University title was explicitly one of the strategic aims of their initial round of postgraduate support. In Cornwall, an early PhD programme during the Objective 1 ESF programme acknowledged that this was partly aimed at developing the research capabilities of some of the institutions involved, but by the 2007–2013 programme the perspective had shifted firmly to SME benefits rather than institutional development. The Welsh scheme was clearly aligned to engaging SMEs in existing areas of research strength. Several of the schemes had added-value aims which were facilitated by the use of ESF and its focus on individual beneficiaries.

An important issue was how to deal with scepticism from some local

partners and funders of the relevance of PhDs to the local economy. Well-communicated case study examples written from the SME perspective, clear selection criteria for potential PhDs and, above all, designing projects to require active participation in each PhD from at least one local SME, have proved effective in addressing this scepticism. When choosing which PhD projects to support using ESIF, universities can help themselves by concentrating on those which have the most obvious synergy with ESIF priorities, directly supporting key development sectors and technologies.

Match funding

Match funding will continue to be a key part of planning new ESIF activities. Universities now have greater potential to provide their own match funding but it is still important to consider the challenges of match funding and the preparation of ESIF budgets. The HE sector, in common with many others, is increasingly risk-averse, particularly given growing pressures from the European Commission around audit and compliance.

The most straightforward form of match funding is unattached cash, but it is more complex when in-kind contributions from businesses or academics' time are involved. The Welsh Knowledge Economy Skills Scholarships (KESS) scheme has successfully incorporated both cash and non-cash match funding from businesses (KESS scholarships are

funded 60% by ESF, 30% by the universities in the form of supervisory time and overheads and 10% by SME contributions) whereas in the Highlands and Islands and Cornwall the PhDs were fully funded by HE and ESIF. This may reflect the

differing aims of these schemes and the extent to which they were funded to achieve R&D engagement or to develop specific R&D in already research-active SMEs.

Combined Universities in Cornwall (CUC) Research Programme				
Lead partner and other partners	University of Exeter (lead) Plymouth University, Falmouth University, European Centre for Environment and Human Health, Cornwall College and Truro & Penwith College.			
Project aims and objectives	Promotes higher skills development is closely aligned with research coupled with the needs of local enterprise and builds on areas of special interest to Cornwall's economic growth.			
Project timetable	Start date:	2008		
	End date (delivery):	2012		
Project value, funding sources	ESF	£3,865,120	Match	£1,290,582
	Total	£5,155,702		
Outputs/targets (starters per year)	2008	0	2008	0
	2009	311	2009	290
	2010	87	2010	170
	2011	132	2011	98
	2012	0	2012	0
	Total	530	Total	558
Other metrics	Categories	Target	Actual	
	No. participating in level 5 research	533	558	
	Female	51%	57.71%	
	Over 50	10%	4.12%	
	Disabled	5%	12.37%	
	Ethnic minority	1%	11.47%	
Innovation	Higher-level skills and knowledge delivered to Cornish economy through PhDs and Masters level postgraduate training and research centred around themes relevant to the Cornish economy and of special interest to the county's economic growth. Enhances region's ability to deliver high-level research and strengthen links between local businesses and the programme partners, collaborative research becomes embedded within local business practices.			

	No. of PhDs	No. of Masters	ESF £m	Match £m	Total £m	Timescale
Cornwall ESF PhDs	76	737	3.9	1.3	5.2	2008–2013
Wales KESS	230	174	20.7	11.0 of which: 7.8 HEI 3.2 private sector	31.7	2009–2015
UHI Postgraduate Research Allowance	12		1.0	0.4	1.4	2010–2014

Knowledge Economy Skills Scholarships (KESS)																
Lead partner and other partners	Bangor University (lead), Aberystwyth University, Glyndwr University, Swansea University, Cardiff University, University of South Wales, Cardiff Met. University, University of Wales Trinity Saint David.															
Project aims and objectives	<ul style="list-style-type: none"> • Prepare and train individuals to contribute to research as professionals. • Increase the research capacity of SMEs by linking with a PhD/Research Masters project. • Encourage SMEs to undertake research and recruit researchers. • Support the development of key technologies in the West Wales and the Valleys Convergence area. • Promote higher-level skills development in the Welsh economy. 															
Project timetable	Start date: 2009 End date Delivery: 2015															
Project value, funding sources	<table border="1"> <thead> <tr> <th></th> <th>£m</th> </tr> </thead> <tbody> <tr> <td>ESF (65% inter. rate)</td> <td>20.6</td> </tr> <tr> <td>HEI match</td> <td>7.8</td> </tr> <tr> <td>Private Sector (Cash)</td> <td>2.2</td> </tr> <tr> <td>Private Sector (In-kind)</td> <td>1.1</td> </tr> <tr> <td>TOTAL</td> <td>31.7</td> </tr> </tbody> </table>		£m	ESF (65% inter. rate)	20.6	HEI match	7.8	Private Sector (Cash)	2.2	Private Sector (In-kind)	1.1	TOTAL	31.7			
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Outputs/targets	<table border="1"> <thead> <tr> <th>Categories</th> <th>Target</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>No. participating in level 4+ training</td> <td>404</td> <td>95%*</td> </tr> <tr> <td>Female</td> <td></td> <td>50%</td> </tr> <tr> <td>Older participants</td> <td>12%</td> <td>12%</td> </tr> <tr> <td>BME</td> <td>4%</td> <td>4%</td> </tr> </tbody> </table> <p>* gained a Level 4+ qualification</p>	Categories	Target	Actual	No. participating in level 4+ training	404	95%*	Female		50%	Older participants	12%	12%	BME	4%	4%
Categories	Target	Actual														
No. participating in level 4+ training	404	95%*														
Female		50%														
Older participants	12%	12%														
BME	4%	4%														
Other metrics	Destinations of participants, publications and conference papers.															
Innovation	<ul style="list-style-type: none"> • Mixing research, knowledge exchange and higher-level skills into one scholarship programme. • Highly accessible route for SMEs to undertake research projects and develop their R&D capabilities. • Opportunity for universities to co-ordinate and develop their PG skills development provision and infrastructure. 															

Delivery issues

Our case study participants were clear that the critical success factor was ensuring that the PhD research topics selected were both attractive to the SME beneficiary and had genuine academic substance. A development and selection process is needed in order to identify the proposals from individual academics or institutions which will best meet the objectives of the programme. For example, the KESS project specifically addressed four Welsh Government R&D priority sectors and aligned with other ESF initiatives.

Two of our case studies (Wales and Cornwall) were delivered through a partnership of universities working through a lead institution, and the third – the Highlands and Islands – operated through a single institution but was effectively distributed across the group of colleges and institutes making up the University of the Highlands and Islands. In this context, managing the scheme to ensure sufficient numbers of PhDs were achieved was an important issue and mechanisms to do this included:

- Having an indicative allocation of PhDs to institutions or centres, and a means of holding institutions to account for bringing sufficient projects forward for consideration whilst retaining flexibility
- Appointing a joint review group, including funder representatives, to identify any targeting criteria and disseminate this clearly across institutions in advance.

All our examples were able to meet their targets for engaging SMEs and for recruiting appropriate students to deliver the projects. Existing academic relationships with R&D-active SMEs were an important factor, but schemes also needed mechanisms for making new SMEs aware of the opportunity, for handling enquiries and creating links with appropriate academic teams.

Delivery timescales for PhD projects needed careful management to make sure that the cycle could be completed within the appropriate programme period, given that the minimum completion time for a PhD is three years and additional setup and recruitment time needs to be built in during the year before a September start. PhD schemes need to start very early in the 2014–2020 programme if they are to have measurable impact during the programme period.

Several of our projects had also learned the importance of having clear expectations about timescale and process. It was not unusual to take a year between agreeing the initial concept and starting substantial work on the ground, allowing for time to agree the funding. SMEs who understood this were not troubled by it, but a few expected the timescale to move more swiftly and were therefore dissatisfied.

Metrics, outputs, evaluation

Output measures – measuring what a project has achieved rather than what it has produced – could greatly enhance the impact of the funding.

DigitalCity																
Lead partner and other partners	Teesside University, Middlesbrough Council, LEP, supported by a cross-sector Strategic Board															
Project aims and objectives	To create and sustain a cluster of high-growth digital and creative businesses and build capacity and performance in SMEs through digital enablement. Target beneficiaries: SMEs.															
Project timetable	Start date: October 2011 End dates: Financial completion September 2015 Practical completion October 2015															
Project value, funding sources	DigitalCity Innovation & Growth (business creation, community development, SME support) Total project cost: £4m; ERDF £2m public match (Teesside) £1.8; private match £0.2m DigitalCity Business (business development, cluster support, accommodation) Total project cost: £2.5m; ERDF £1.25m															
Outputs/targets (to June 2014)	<table border="1"> <thead> <tr> <th></th> <th>Target</th> <th>To date</th> </tr> </thead> <tbody> <tr> <td>New businesses created</td> <td></td> <td>60*</td> </tr> <tr> <td>New SMEs assisted</td> <td>90</td> <td>60</td> </tr> <tr> <td>Existing SMEs assisted</td> <td>135</td> <td>75</td> </tr> <tr> <td>Gross jobs created</td> <td>140</td> <td>90</td> </tr> </tbody> </table> <p>*Not an ERDF target Evaluation 2008–11 showed 143 new businesses, 389 new jobs, GVA of over £15m.</p>		Target	To date	New businesses created		60*	New SMEs assisted	90	60	Existing SMEs assisted	135	75	Gross jobs created	140	90
	Target	To date														
New businesses created		60*														
New SMEs assisted	90	60														
Existing SMEs assisted	135	75														
Gross jobs created	140	90														
Other metrics	Interim and final evaluation reports, Fellowship numbers and provenance of Fellows, size of cluster, 'stickability' (number of businesses remaining in the North East after establishment)															
Innovation	<ul style="list-style-type: none"> • Longevity of partnership – 10 years plus – and focus on continuous improvement. • Embedded in University strategy; embedded in LEP Strategic Economic Plan and plans of five local authorities. • Creation/support of new digital companies through an innovative fellowship programme. • A wide range of school and community initiatives promoting social inclusion, raising aspirations. • Skills and KT for digital/non-digital businesses to improve performance and competitiveness. • Creative and stimulating environment for entrepreneurs, new and established companies, postgraduate students. • Expert support and accommodation for developing businesses with capacity for high growth. 															

Graduate placements

WHY?

Why should I think about a graduate placement scheme?

From the HEI's perspective

A graduate placement scheme, perhaps including support for graduate start-ups, is an excellent student recruitment tool, placing a clear emphasis on employability. It's also a useful way of boosting an institution's business-friendly credentials and a good way of creating new relationships with SMEs.

From the LEP's perspective

A large majority of participants in graduate placement schemes demonstrate a clear desire to find employment in that place, helping to grow a graduate workforce and retain higher level skills. Graduate placements often help to create new permanent jobs and build knowledge-based clusters of businesses.

From the SME perspective

A graduate placement programme is a very efficient way of recruiting and of acquiring a skill-set not currently available in-house, typically marketing and ICT skills. Most schemes have fixed costs and commitments and combine placements with graduate training, in a way that much larger employers do, and most help businesses scope and plan the project which the graduate will help deliver.

short (up to 10-week) placements during the most recent phase of the project which began in 2009.

• A variety of ERDF and ESF graduate placement schemes have been carried out in Scotland by the regional development agencies (Highlands & Islands Enterprise and Scottish Enterprise), the voluntary sector and local authorities, working alongside HEIs and focusing on the range of different SME requirements.

Graduate placement schemes have also become a feature of a wide range

of other broader SME engagement programmes.

There has been a gradual evolution and development of these schemes over time, as experience has grown and new opportunities have arisen. What began as relatively simple initiatives to create placement opportunities in SMEs and then match them to suitable graduates has developed in several important ways, including:

• Diagnostic activity to ensure that the SME project is suitable for a

New simplified 'unit cost' models offer some interesting directions for delivery mechanisms, but the potential pitfalls of other projects and operations undercutting costs at the expense of quality is an issue. Workshop participants expressed significant concern about future programme evaluation being carried out on a crude 'cost per qualification' basis, not taking into account the qualitative differences between a PhD

graduate and short Level 2 or 3 courses, and their impact on an SME or on the broader economy. The projects differed in whether or not they included Masters students (research or taught) and, if so, at what scale. Participants in our workshops said that Masters-level work with SMEs was likely to offer significantly less by way of impact than the more substantial PhDs. The next programme might offer the

opportunity to bring these together into a flexible suite of placement and project support, where the best intervention can be selected according to business needs rather than funding.

Programme costings need to be worked out in detail at proposal stage, whether these are to be claimed individually or through a unit cost approach.

Thought needs to be given to how – and why – horizontal themes such as equality, are measured. Too often, there is considerable work put into reporting on equal opportunities but it is difficult to address shortcomings. It is not unreasonable for programmes to require or institutions to offer to target particular groups.

Geographic boundaries presented a constraint for some PhD schemes, particularly those operating on a smaller scale, given the programme requirement for both beneficiary (the student if the scheme is ESF funded) and SME to be based in the programme area. In the future, schemes which operate across a wider area and involve a broader range of university partners could offer better flexibility from the point of view of the SMEs involved, although this may be more complex from a project management perspective.

Good practice points for this section are on pages 55 and 56

Edinburgh Centre for Carbon Innovation													
Lead partner and other partners	Edinburgh Napier University (lead), Heriot-Watt University, supported by University of Edinburgh, Scottish Government.												
Project aims and objectives	<ul style="list-style-type: none"> • Bring low carbon leaders and practitioners from business, finance and the public sector together to accelerate large-scale low carbon projects, drive innovation in supply chains and create new low carbon products and services. • Collaborate with government, enterprise and HE to help craft smart climate and energy policy and translate these models for international audiences • Create learning programmes that build the capacity and skills required to succeed in a low carbon future. 												
Project timetable	May 2011–March 2015 (core ERDF project)												
Project value, funding sources	(Initial ERDF Low Carbon Innovation project) £1.4m million, 44% ERDF, matched from University of Edinburgh, Napier and Heriot-Watt.												
Outputs/targets	<table border="1"> <thead> <tr> <th></th> <th>Target</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>SMEs supported</td> <td>200</td> <td>138</td> </tr> <tr> <td>Networks</td> <td>15</td> <td>38</td> </tr> <tr> <td>Projects</td> <td>10</td> <td>15</td> </tr> </tbody> </table>		Target	Actual	SMEs supported	200	138	Networks	15	38	Projects	10	15
	Target	Actual											
SMEs supported	200	138											
Networks	15	38											
Projects	10	15											
Other metrics	Job creation, turnover and 'horizontal themes'.												
Innovation	<ul style="list-style-type: none"> • A practical and focused approach to helping businesses, organisations, individuals and systems to seek out and implement new ways of working towards a low carbon future. • A multi-faceted agenda including influencing senior decision makers, effective community engagement, managed space to encourage innovation and carbon-focused entrepreneurship. 												

graduate, and signposting to other forms of support if not

- Web-based graduate jobsites and support to SMEs in the recruitment process
- Structured programmes of graduate training in employability skills
- Mentoring for graduates and businesses during the placement
- Graduate start-up support through 'boot camps'.

These schemes now offer a substantial programme of support to SMEs in the regions in which they operate.

B. New opportunities under the next programme

Current guidance makes it clear that graduate placements, including the additional elements that have developed around these schemes, will be eligible for support in the next programme. These schemes have a proven track record and consistently achieve high levels of positive feedback from SMEs.

The wider benefits of graduate placement activity are also recognised by many LEPs in their ESIF strategies. These schemes are a key vehicle for increasing linkages between universities and local employers and, once these relationships are established, they can develop into broader partnerships in which the SME is encouraged to innovate and take up other forms of business support. As such, graduate placement schemes can be at the heart of universities' involvement in local Growth Hubs.

Programme boundaries have created some difficulties in the 2007–2013 period and mechanisms for schemes to work across regional boundaries have been hard to implement. For example, although the Unlocking Potential scheme in Cornwall has expanded into the wider South West

region, it has done so using a different funding model and separate project contracts which have then had to be integrated with existing operations while still retaining the means of making separate claims. The new programme, in principle, offers scope for wider regional, multi-LEP

Unlocking Potential													
Lead partner and other partners	Cornwall College (lead partner), Falmouth University as direct delivery partner and the wider CUC partnership in the ESF programme. Universities South West and Business West are partners in Grads For Growth. Plymouth University lead partner in the associated ERDF Enterprise programme.												
Project aims and objectives	<ul style="list-style-type: none"> • Delivering 400 peer-with-peer workshops to SME owners and managers to generate targeted GVA increases (ERDF Enterprise programme). • 467 additional graduate level jobs in Cornwall supported with 6- to 12-month business development projects • 120 additional graduate level jobs across the South West supported with 12-month business development projects • Support 70 start-up businesses • Create 54 short-term business development projects for graduates in SMEs • Employability and business skills training for 150 unemployed graduates • 150 postgraduate placements through Falmouth University 												
Project timetable	Start date: March 2011 End date delivery: June 2015												
Project value, funding sources	ESF: £12.7m Total: £15.1m												
Outputs/targets	<table border="1"> <thead> <tr> <th></th> <th>Target</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Graduate placement</td> <td>425</td> <td>436</td> </tr> <tr> <td>PG placement</td> <td>314</td> <td>330</td> </tr> <tr> <td>Graduate Start-up</td> <td>25</td> <td>39</td> </tr> </tbody> </table>		Target	Actual	Graduate placement	425	436	PG placement	314	330	Graduate Start-up	25	39
	Target	Actual											
Graduate placement	425	436											
PG placement	314	330											
Graduate Start-up	25	39											
Other metrics	Detailed exit process: meetings, exit reports that detail impact on business and graduate, online surveys from all beneficiaries.												
Innovation	<ul style="list-style-type: none"> • High-value support provided to individuals to drive SME business growth • Peer-with-peer learning as opposed to traditional training to inspire, develop and support business owners and leaders. 												

commissioning of graduate placements. Participants in our study were strongly in favour of this approach.

C. Experience from previous programmes

Vision, aims and stakeholders

Many local area ESIF strategies identify a range of higher level skills objectives to which graduate placement activity could contribute. These include:

- Increasing graduate retention
- Increasing employability
- Encouraging SMEs to create graduate-level jobs
- Addressing particular skills gaps
- Addressing graduate unemployment
- Raising salary levels for higher skilled employment

There is strong synergy between the aims of local ESIF partnerships and of universities in this area: it is vital for universities to secure high rates of employment for their graduates, local economic partners want to increase the demand for graduate skills in the workforce and SMEs welcome the support and advice they offer. None of our case study projects had experienced difficulty in gaining support for the principle of these schemes.

Three project design questions emerged from our good practice discussions. The first is whether graduate placement schemes should be organised at institutional level or across wider area partnerships. Although the schemes we looked at in

detail were all regional schemes, there are numerous other examples of individual institutions including funded graduate placements as part of their wider ESIF offer. This approach has the advantage of short lines of accountability for the delivery of the scheme. However, for SMEs a scheme will be more accessible if they don't have to 'shop around' themselves to identify which of a range of different university schemes best suits their needs. Area-based, multi-institution schemes with a single brand and point of contact for SMEs seem to have more impact. A preference for fewer,

larger schemes under the 2014–2020 programme also supports a cross-institution approach.

The second issue is whether ERDF or ESF outputs are easier for placement schemes to work with since, regardless of which fund has been applied, schemes seem to be operating to deliver a basket of outcomes relating both to individual employment and business growth. It may be that in the next programme the use of ERDF to support graduate placement schemes becomes more widespread.

Graduate Recruitment and Placements													
Lead partner and other partners	Teesside University, supported by an industry-led steering group												
Project aims and objectives	To improve SME performance through high-level skills and innovation, create graduate-level jobs in SMEs and strengthen University-SME links using knowledge exchange internship. Open to all ERDF-eligible businesses across the North East.												
Project timetable	Start date: December 2010 End dates: Financial completion September 2015 Practical completion October 2015												
Project value, funding sources	<table border="1"> <tbody> <tr> <td>ERDF</td> <td>£2.6m</td> </tr> <tr> <td>Public match (Teesside)</td> <td>£0.9m</td> </tr> <tr> <td>Private match</td> <td>£1.6m</td> </tr> <tr> <td>Total Project Cost</td> <td>£5.1m</td> </tr> </tbody> </table>	ERDF	£2.6m	Public match (Teesside)	£0.9m	Private match	£1.6m	Total Project Cost	£5.1m				
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Outputs/targets	<table border="1"> <thead> <tr> <th></th> <th>Target</th> <th>Actual (June 2014)</th> </tr> </thead> <tbody> <tr> <td>No. of new SMEs assisted</td> <td>59</td> <td>25</td> </tr> <tr> <td>No. of existing SMEs assist</td> <td>76</td> <td>164</td> </tr> <tr> <td>No of gross jobs created</td> <td>292</td> <td>186</td> </tr> </tbody> </table>		Target	Actual (June 2014)	No. of new SMEs assisted	59	25	No. of existing SMEs assist	76	164	No of gross jobs created	292	186
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No of gross jobs created	292	186											
Other metrics	Detailed exit process: meetings, exit reports that detail impact on business and graduate, online surveys from all beneficiaries.												
Innovation	A flexible model which met ERDF requirements, while minimising red tape for SMEs. 'Flex' can be used to address underperformance. Drew out the best of KTP model for SMEs that stand to benefit but may not be ready for a full KTP.												

The third issue is how graduate placement schemes should be integrated within the wider provision of business support in a local area.

One of the characteristics of successful graduate placement schemes is that they include some form of initial diagnostic and

preparation to ensure that the graduate project is at an appropriate level, properly supervised, and that the business is sufficiently well-founded to be able to sustain the employment of a graduate. This assessment might suggest other opportunities that different programmes could also support. Protocols for sharing this intelligence between funded business support providers have proved difficult to establish – the new model of Growth Hubs may better facilitate this in the future.

Match funding

All of the case study schemes we considered had been supported by a package of ESIF (mainly ESF) matched by institutional and public funding contributions. We anticipate that with institutions now committing substantial mainstream resources to graduate employability, and since staff time can be included as ESF match (subject to proper audit), it should not be difficult for institutions to create match funding packages for graduate placement schemes in the next programme.

The difficult issue is to what extent SMEs should be asked to contribute to the costs of the placement and whether grant funding should include an element of wage subsidy. The schemes we examined varied, but most did include wage subsidy for some participants in addition to covering the full costs of marketing, supervision and training: the Cornwall scheme initially offered

subsidy of up to £6,000 for 12 month placements and GO Wales offered up to a maximum of £1,000 for a 10 week placement.

The development of Cornwall's Unlocking Potential scheme is instructive here. The initial high level of subsidy to salary costs was identified as a significant reason for the scheme gaining its strong momentum among employers. From 2008 to 2011, half the projects were subsidised at the highest rate of £6,000 and payments to SMEs accounted for 70% of the total scheme costs. As the scheme developed it became clear that a targeted approach to subsidy would be required if the scheme was to grow. A case-by-case assessment of the ability of the SME to contribute led to significant reductions in the number and the level of subsidy offered without any detrimental effect on scheme participation.

New schemes seeking to include a wage subsidy element in the new programme will need to present clear evidence about the rationale for this and how it will be targeted. If subsidy is offered, clear assessment criteria will be required to test additionality.

Delivery issues

Graduate placement schemes seem to have encountered fewer difficulties in delivery than other types of ESIF intervention. These are mature schemes with many of the early lessons now well embedded in practice.

Some of the differences at delivery level between the schemes we considered were:

- Whether they targeted the placement of graduates only from local institutions (the GO Wales scheme) or were more focused on creating graduate-level jobs in local SMEs with national recruitment (the Unlocking Potential scheme).
- The length of placements. Placements of less than three to six months were considered to be of limited value: the schemes we looked at tended to offer longer placements of up to 18 months
- Whether the delivery team was integrated with the careers and employability services of institutions (GO Wales), or operated independently (Unlocking Potential). Schemes focused on employing local graduates tend to deliver at institutional level, but have experienced variability in the ability of individual institutions to meet programme targets. Centrally delivered schemes are easier to manage and offer simpler access for SMEs, but have to develop mechanisms to link with other institutional careers and business engagement services.

Costs were significantly affected by the extent of the initial diagnostic and setup support for each project, and the subsequent additional training offered to graduates. As a minimum, some transparent mechanism for making judgements about which projects should receive support and at

what level was thought to be essential.

We have already touched on the issue of where graduate placement programmes sit within the wider platform of business support. It is perhaps unsurprising that our case study participants placed a high value on embedding graduate placement schemes within the wider programmes of SME relationship management offered by institutions, and on engaging directly with interested SMEs rather than through an intermediary. The primary benefit was that potential business partners could be directed to the most appropriate form of institutional support. The key delivery issue here is the locus for the initial contact between the scheme and SMEs, and whether this is specific to the graduate placement scheme or located within a general Growth Hub-style of operation. Practice on this is developing rapidly as the new Growth Hubs come into being.

Metrics, outputs, evaluation

Comparison of outputs and funding across the schemes we considered is not straightforward because of the different elements of support involved: the table below gives the overall data for the Cornwall, Wales and South West schemes during the 2007–2013 programmes but should be treated with some caution:

There is strong and compelling evaluation evidence about the effectiveness of graduate placement

Graduate Entrepreneurship Project			
Lead partner and other partners	University of Huddersfield and other Yorkshire University partners		
Project aims and objectives	<ul style="list-style-type: none"> • Promote entrepreneurship and business start-up to students and graduates • Combine resources and best practice to support entrepreneurs • Manage support activity delivered locally by individual HEIs. 		
Project timetable	Start date: January 2011 End date Delivery: March 2014 End date Project: November 2014		
Project value, funding sources	£2.5m revenue only. Match is primarily through HEIF or other institutional funds via staff time and overheads.		
Outputs/targets		Target	June 2014
	SME assistances	20	92
	Gross new jobs created	30	71.4
	New businesses created	50	52
Other metrics	New general enquiries	6,003	
	New students/graduates engaged	2,627	
	Number of 1-2-1s held	4,532	
	Number of events held	326	
	Number attendees at events	8,806	
	Number of start up grants allocated	99	
	Monetary value of start-up grants	£182,111	
	Proof of concepts allocated	95	
	Monetary value of proof of concept	£45,173	
Innovation	<ul style="list-style-type: none"> • Administration: external evaluators said "expertly managed by the central team and expertly delivered by the partner institutions". • Partnership: strong collaboration between partners (delivery and strategic) and regular sharing of issues, challenges and successes. • The ability of partners to choose the activity that best suits their contexts, and adapt for their own needs within agreed parameters. • Profile: external evaluators said "...the regional nature of the project also enabled it to achieve a higher profile, and this has helped beneficiaries as they have launched their businesses". 		

Huddersfield's Graduate Entrepreneurship Project includes graduate placement activity, alongside a range of other enterprise skills and business start-up activities.

Innovation vouchers

WHY?

Why should I think about an innovation vouchers scheme?

From the HEI's perspective

An ideal vehicle for small, low-cost, bespoke pieces of work with SMEs and an excellent starting point for building relationships with knowledge-based businesses.

From the LEP's perspective

Innovation vouchers are a straightforward means of directly funding links between businesses and the knowledge base, a key element in most LEP's strategic plans.

From the SME perspective

For a business which wants to try something different, especially for those at a point in the business cycle where development funding is tight such as start-ups, innovation vouchers are a vital and flexible source of support.

Projects range from sophisticated, multi-partner schemes to single-institution schemes, and from schemes considering any projects to those tightly prescribed around particular sectors or technologies. Typically these voucher schemes operate within a range of values of around £1,500 to £5,000 per intervention; below this range, schemes seem to be non-viable, and above this, support has been better delivered by more in-depth Knowledge Transfer Partnership-type interventions.

Projects varied in the extent to which SMEs were asked to provide match funding, ranging from no contribution to SMEs paying only the VAT element (a widespread approach), to requiring up to 50% of the total project value from the SME.

Two broad types of scheme have been supported to date:

- The majority of ERDF-funded innovation voucher schemes were awarded to university partnerships who then stimulated demand from SMEs to use the voucher to purchase services from the institution or institutions involved. In a few cases, the funding specifically supported delivery staff in the institutions to work with target businesses
- The direct award of vouchers to businesses, for example in Cornwall where a project jointly delivered between the local business support agency and the Combined Universities in Cornwall partnership, awarded vouchers directly to businesses who then had freedom to spend the award on any form of innovation support and any

schemes and their popularity with the SME community. Evaluation findings include:

- Between 64% and 80% of graduates are offered permanent employment at the end of their placement (reinforcing the view that SMEs without a history of graduate employment are using this scheme as a low-risk 'try before you buy' option)
- In Unlocking Potential, two thirds of SMEs saw an increase in turnover of more than £100,000 directly attributable to the graduate project

The mid-term evaluation of Convergence ESF investment in Unlocking Potential found that:

- Around two thirds of companies reported an increase in profit,

productivity, turnover and market share

- One half stated that as a result of the placement its outlook was identifiably more positive; one fifth said it was significantly more positive and almost all the remainder said the outlook was marginally more positive
- 51% of participants are staying with the company on a full time basis with a further 6% on a part time basis. If we add those that found graduate work with another company then the percentage rises to almost 75%.
- Almost all SMEs in the Cornwall scheme acknowledged the element of direct financial assistance as essential or very important to their participation in the scheme.

In Wales, an independent evaluation of the scheme which delivered 2,327 placements estimated a net increase

in business turnover of £39.6m as a result of the scheme, net job creation of 694 jobs and wage uplift of £1.48m

- More than 90% of SMEs in both the Cornwall and Wales schemes reported very high levels of satisfaction with their experience

Funding and placement number comparison

	ESIF £m	Total £m	Placements target
Unlocking Potential (Cornwall)	9.6	12.8	1,397
Unlocking Potential (South West)	1.6	2.2	120
GO Wales	9.6	19.4	2,327

Good practice points for this section are on pages 55 and 56

As we have seen in previous sections, innovation is one of the core objectives in the current Growth programme. In previous programmes, some regions introduced innovation voucher schemes, providing seed-corn funding to test ideas and investigate viability. Innovation vouchers typically provide grants to help businesses access knowledge from HEIs in order to develop new products and processes through R&D projects.

Voucher schemes can be particularly attractive to LEPs because they are seen to deliver demand-led innovation services, where the funding goes to the business to source the support they need rather than to the university to deliver services. However, setting up such schemes is not straightforward and the lessons identified below will be of particular interest to those intending to invest in and deliver innovation vouchers in the next programme.

A: Overview of existing projects

There has been a wide range of ERDF-supported projects delivering innovation vouchers in previous programmes, with benefits accruing to the institutions, the businesses and wider economic growth. Innovation voucher schemes have operated in most regions, usually as part of a wider platform of knowledge transfer and knowledge exchange activity, supported by ERDF.

knowledge-base provider. The university partners' role was to drive demand for the scheme but there was no guarantee that they would be the preferred knowledge partner for projects.

There is an overview of the range of voucher schemes we looked at on page 52.

B: New opportunities under the next programme

The 2014–2020 operational programme is explicit in having objectives to increase business investment in R&D and build stronger innovation links between universities and SMEs. Specific barriers identified by SMEs include difficulties in accessing finance for innovation and business uncertainty about the value and benefits of investing in innovation. Funding for proof of concept and investment to build closer links between SMEs and universities are included in the scope of potential investments.

The next programme's outputs are particularly suited to schemes such as innovation vouchers, in particular the output focused on the number of SMEs working with research institutions. Universities offering voucher schemes will be able to make an important contribution to this output, and measurement should involve minimal bureaucracy.

Since a number of the successful voucher schemes have been run on a

Innovation University Enterprise Network (IUEN)	
Lead partner and other partners	Coventry University Enterprises Ltd (lead), Wolverhampton University
Project aims and objectives	I-UEN supports growth businesses based within the West Midlands in creating, developing and implementing new business opportunities through tailored consultancy and open innovation principles.
Project timetable	Started: May 2011 Original practical completion: May 2014 Original reporting deadline: June 2014 Extended project end date: December 2015
Project value, funding sources	Total project value of £2.75m, all revenue. 50% ERDF, 50% match. Actual spend June 2014 £1.9m
Outputs/targets	590 x 2-day interventions, 106 x new jobs created Challenges: over-ambitious delivery and funding, no 'strategic' advisory group, gaps in staffing capacity. By the end of June 2013, 116 '2-day assists' with SMEs (target milestone 210) and 1 job created (target milestone 42). Re-focus towards substantive 'bespoke' support resulting in a large number of qualitative outcomes that do not form part of the delivery contract. However, due to recent increases in delivery capacity, I-UEN is now on a better delivery trajectory: 6–12 month extension period to achieve contracted targets. Update June 2014 – 303 '2-day assists' with SMEs and 33 jobs created.
Other metrics	<ul style="list-style-type: none"> • A total increase in enhanced turnover of £45.36m from new business in SMEs • An overall increase in GVA of £12.48m from new business across supported SMEs • A return on investment (ROI) £12.46 for every £1 of funding spent by I-UEN
Innovation	Bespoke package of support tailored to individual requirements: can include masterclasses, practical workshops, one to one consultancy and access to large corporations for the development of innovations through collaboration. The eligibility criteria is not limiting and no match funding is required from the beneficiary.

regional or national basis and as part of more extended platforms of innovation support, innovation vouchers may be a form of investment which is particularly appropriate for incorporation into larger 'operations' and across LEP boundaries. Many schemes are already run by university partnerships and it may be that this broader partnership approach will be both desirable and likely in the next programme. Early discussions with LEPs may be required to encourage this approach.

C: Experience from previous programmes

Vision, aims and stakeholders
All the case study projects we considered had as their starting point an objective to provide financial support for SMEs with innovation potential. In the case of broad schemes, this focused on businesses who had not previously engaged in R&D or who had no links with the knowledge base. In schemes which were more focused on particular technologies or sectors, it was more likely that voucher applicants would already have some track record. Most (but not all) explicitly sought to encourage connections with local universities.

Local economic stakeholders were, in many cases, committed to providing 'demand-led' innovation support. Some HEIs reported that this had presented initial barriers to the notion of having a university or

university partnership running these voucher schemes. It is important for universities embarking on innovation voucher projects to set these schemes up so that they respond to business needs rather than – in fact or

perception – simply promoting university expertise or services. In a few cases (for example Cornwall, Scotland and Northern Ireland) innovation voucher schemes were delivered through a partnership

Hi Links																																		
Lead partner and other partners	University of the Highlands and Islands (lead), Highlands and Islands Enterprise (HIE).																																	
Project aims and objectives	To provide outreach support to SMEs across the Highlands and Islands including those in remote, rural and isolated locations.																																	
Project timetable	Start date: April 2009 End date: March 2011																																	
Project value, funding sources	<table border="0"> <tr> <td>Total H&I Enterprise Grant</td> <td>£279,016</td> </tr> <tr> <td>Total ERDF Grant</td> <td>£186,010</td> </tr> <tr> <td>UHI Contribution</td> <td>£115,000</td> </tr> <tr> <td>Total Expenditure</td> <td>£580,026</td> </tr> </table>	Total H&I Enterprise Grant	£279,016	Total ERDF Grant	£186,010	UHI Contribution	£115,000	Total Expenditure	£580,026																									
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Outputs/targets	<table border="0"> <thead> <tr> <th></th> <th>Target</th> <th>Achieved</th> </tr> </thead> <tbody> <tr> <td>HIE BIGs Awarded (feasibility funding)</td> <td>20</td> <td>22</td> </tr> <tr> <td>New products</td> <td>9</td> <td>16</td> </tr> <tr> <td>New processes</td> <td>6</td> <td>17</td> </tr> <tr> <td>New licensing deals</td> <td>1</td> <td>1</td> </tr> <tr> <td>New Spin-outs/companies</td> <td>1</td> <td>5</td> </tr> <tr> <td>New patents issued/ IPR registrations made</td> <td>1</td> <td>6</td> </tr> <tr> <td>Private sector investment in applied R&D</td> <td>£126k</td> <td>£928k</td> </tr> <tr> <td>Increase sales in assisted businesses</td> <td>£50k</td> <td>£153k</td> </tr> <tr> <td>Gross new jobs</td> <td>3</td> <td>6</td> </tr> <tr> <td>Gross safeguarded jobs</td> <td>4</td> <td>28</td> </tr> </tbody> </table>		Target	Achieved	HIE BIGs Awarded (feasibility funding)	20	22	New products	9	16	New processes	6	17	New licensing deals	1	1	New Spin-outs/companies	1	5	New patents issued/ IPR registrations made	1	6	Private sector investment in applied R&D	£126k	£928k	Increase sales in assisted businesses	£50k	£153k	Gross new jobs	3	6	Gross safeguarded jobs	4	28
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Gross new jobs	3	6																																
Gross safeguarded jobs	4	28																																
Other metrics	Independent assessment by EKOS (2008) for the initial 3 year project calculated GVA for the project to be £1.8m with a projected five year GVA of £6.24m. Also, £2.86 was generated for every £1 spent, forecast to rise to £9.90 for every £1 spent over the next five years.																																	
Innovation	<ul style="list-style-type: none"> • Demand led • Business focused • Truly regional wide service • Actively stimulated demand from business for university services. 																																	

Innovation vouchers overview

Scheme	Main Purpose	Single or multi-HEI	Total project value, ERDF and match	Tech or sector focus?	Voucher value and number
Nanofactory, Yorkshire	High-tech innovation in SMEs and spin-outs	Multi	Total £4,598k ERDF £2,512k Match from universities, HEIF and EPSRC	Focus on nano-technology capability in six universities	Range of services, not just vouchers. Individual interventions not costed. 82 SME assists
Yorkshire Innovation Fund	Linking local SMEs to universities to stimulate innovation	Multi	Total £8,200k ERDF £4,147k	Priority given to regional target sectors	Vouchers up to £10k but links to higher-level funding of up to £100k. 300 SME assists
North West England innovation vouchers	Building innovation links between SMEs and universities	Multi	Total £4,400k ERDF £2,000k Match from NWDA	None – all eligible sectors included	Up to £10k, variable rates up to 100% of project cost. 1,250 vouchers
Coventry University Innovation Networks	Increasing levels of innovation and encouraging collaboration	Single	Total £3,800k ERDF £1,900k Match from SME spend	Main focus on four research centres	£10,000 to collaborative groups of three SMEs. 150 SMEs assisted
Innovation Futures, Sheffield Hallam	Embed R&D in SMEs and drive business growth	Single	Total £1,844k ERDF £958k Match from HEIF and University	Broad	Project funded 10.5 FTE delivery staff plus project management. 57 business assists
Cornwall Business Innovation Fund	Stimulating higher levels of innovation in local SMEs	Multi	Total £585k ERDF £322k Match funding from SMEs	None – all eligible sectors included	Up to £10k, matched 50:50 by SME.
Scottish Innovation Vouchers	Stimulating higher levels of innovation in local SMEs	Multi	Standard innovation vouchers £3,569k, follow-on innovation vouchers £498k	None – all eligible sectors included	Small schemes up to £5k, follow-on vouchers up to £20k matched 50:50 by SME.

between the university or universities and a local business support agency, with clear roles and risk-sharing for each partner.

Match funding

The schemes we considered included a variety of match funding. In many cases the university provided match, either directly or by drawing down national funding mechanisms such as HEIF or Research Council funding. HEIF in particular was seen as an important source of financial support for innovation voucher schemes without which some schemes might not have launched. Some universities had successfully included staff time as match, and the next programme may make this option more consistently available (with adequate supporting evidence).

In the Cornwall and Coventry schemes, match was provided by SME contributions to the projects, including covering the scheme management costs. Innovation voucher-type investment is likely to be eligible for R&D tax credits so some SME contributions may be recoverable, an opportunity hopefully more consistently available in the next programme.

Several schemes were supported by revenue match from the RDAs or their equivalents, and while this option will clearly not be available in the 2014–2020 programme it may be that some local area partnerships will wish to include innovation voucher schemes in their bids for Regional Growth Funding.

West Midlands scheme

£2m public investment led to predicted economic impacts of 85 jobs and £5.9m in GVA, and a 12:1 return on investment of public funds.

- Demand for the vouchers has exceeded supply by a factor of three
- 46% of participants had no previous experience of working with HE
- 56% continue to work with universities in the West Midlands
- Additional economic impacts predicted: 85 jobs, £5.9 million GVA
- Round five return on investment: £11.89 for each £1 of public sector funding (national average for science, R&D, innovation interventions £8.30)

North West Development Agency scheme

Interim evaluation of the first 500 vouchers found:

- Good knowledge of provider capability up from 45% to 79%
- 92% had little or no previous relationship with knowledge providers
- 21% had already developed a new product as a result of the voucher
- Return on investment was estimated at 9.75:1
- Median increase in turnover 25%, 50% in micro companies
- Vouchers appear to be highly complementary to other support

Scottish Funding Council scheme

£110k public investment in 27 vouchers predicted to lead to long term net GVA increase of £3.57m and 230 net additional jobs.

We have explored the potential for local innovation voucher schemes to be linked directly to the Technology Strategy Board's national innovation voucher scheme, on the basis that this could simplify SME access to the funds and offer a ready source of match. TSB is not keen to link its innovation vouchers to ERDF for a number of reasons including a desire to run their scheme with minimal bureaucracy and keep to a national scheme rather than regional targets. However, there can be co-operation between local schemes and TSB, for example through TSB promoting all available schemes on its website and through passing on to local schemes

any credible applications to the national programme which cannot be supported at that level.

Delivery issues

Getting the delivery mechanism right is key to making a success of an innovation voucher scheme. Our case study participants highlighted several important aspects:

- Any scheme involving ERDF will have to comply with the procurement requirements of ESIF. This will have a significant effect on how schemes are structured. If the voucher is routed directly to SMEs, then each SME will have to ensure compliance in the knowledge input they procure (whether from an HEI or from

elsewhere), in essence obtaining quotes from three potential suppliers. The difficulties of doing this for specialist R&D services can be a real barrier to SMEs engaging with

schemes, as is the perceived bureaucracy if the SME is already clear who they want to work with. This is one significant benefit of having a university partnership to

manage the scheme as SMEs do not then need to procure their services.

- The schemes we considered used a range of mechanisms for deciding which proposals would be funded. For such small sums, it is not proportionate to engage in a lengthy application and appraisal process. A few schemes (including the original Aston University scheme on which the TSB national scheme was based) have used a simple lottery mechanism with success. Others do attempt to make some level of judgement about the potential of applications to lead to valuable innovation, but this can be resource intensive.

- If the scheme is particularly targeting SMEs which are not engaged in R&D, it is important to consider how potential voucher recipients will be helped to identify potential projects. Universities have a clear interest and track record in doing this, and existing knowledge exchange teams with the right skills and contacts to target applicants. This is a real asset which universities can offer to programmes.

- A clear and accessible communications strategy is important for innovation voucher schemes, and there is plenty of good publicity from existing schemes in the public domain. SMEs generally do not respond well to the language of 'innovation', and explaining the scheme in more business-friendly language such as 'new product design', 'prototyping' or 'intellectual property' is a better approach.

Knowledge Action Network	
Lead partner and other partners	Manchester Metropolitan University (lead), University of Chester, University of Cumbria.
Project aims and objectives	To unlock knowledge and innovation capacity and culture of 210 SMEs, develop a cross-sector fertilisation network of regional SMEs, address the current gap in mutual knowledge transfer provision and create strong new connections between participating SMEs, which will provide: <ul style="list-style-type: none"> • new trading and innovation relationships • new awareness and access to the knowledge base • improved cross-company capacities • better innovative capabilities • empowerment of culture change Support increased growth, productivity, competitiveness and job creation within those companies assisted.
Project timetable	Start: March 2012 End: March 2015 Output/results: September 2015
Project value, funding sources	Revenue project, total funding £2.5m
Outputs/targets	Knowledge Action Groups (peer to peer support), masterclasses in sales, marketing, HR etc., online networking and forum, individual specialist support, professional business coaching Business Assists 202 New Collaborations 8 Jobs created 63 Jobs Safeguarded 42 Improved Performance 135
Other metrics	Male/female jobs created Male/female jobs safeguarded Carbon tonnage
Innovation	A cross-sector blend of SMEs in intensive peer led support, complemented by injections of business advice, coaching and support. Working with peers is key to success: excellent results gained in creating and safeguarding jobs and increasing GVA. SME groups meet and support each other after project involvement ends.

business R&D, voucher schemes must therefore be strong candidates for inclusion in local programmes.

The table on page 52 sets out the funding and output metrics associated with the schemes we considered.

D. Good practice points

Workshop participants identified a wide range of good practice points about ESIF investments in SME engagement projects with universities cutting across the three areas above:

- SME engagement should be delivered through a joined-up strategy, not individual projects. Considering the whole university offer as a combined 'operation' might help with this, and could also help to identify sources of match funding.

- These are by their nature risky investments. Not every investment will lead to the successful identification of a new product or process, and in the larger schemes there will likely be some SMEs who do not survive the whole project period. Projects need to be designed with this in mind, in terms of setting output targets accordingly, and stakeholders need to be aware of these risks in order to avoid unrealistic expectations.

Metrics, outputs, evaluation

Many innovation voucher schemes are sufficiently mature that there is plenty of evaluation evidence available. Well-designed schemes seem to be a highly cost-effective means of engaging SMEs in small-scale R&D and innovation and in building links between SMEs and universities. Given the strong emphasis the next programme places on raising levels of

Yorkshire Innovation Fund (YIF)	
Lead partner and other partners	University of Bradford (lead) with 10 university partners in the Yorkshire & Humber region
Project aims and objectives	YIF funds access to university research and innovation for Yorkshire and Humber SMEs with a focus on locally-defined priority areas
Project timetable	August 2013–July 2015
Project value, funding sources	Total £8.2m
Outputs/targets	180 new jobs, 120 jobs safeguarded, 90 new research, development and innovation projects delivered, GVA increase of £12.21m, 300 SME assists.
Other metrics	Interim progress and final reports for each project. Independent mid-term and final programme evaluation.
Innovation	Range of products and collaborative provision of research and innovation expertise to a broad spectrum of SMEs.

- Branding and communications are important for SME services, so that businesses can easily understand how to get the help they need.

- SMEs in an area want a clear and easy way of accessing the support they need. There are many examples of very successful, long-term collaborations between universities to deliver SME engagement projects on a regional basis.

- SME engagement requires long-term relationship management, between universities and SMEs and also between universities and other organisations providing business support. This needs to be resourced over the long term.

- Some university SME engagement projects are able to continue their activity beyond the initial funding period by integrating them into mainstream activity. Make sure that this is spelled out and properly valued in appraisal.

- SMEs place a high value on peer-to-peer support, which may mean broadening the university's skills base beyond traditional academics.

Universities can act as hubs to co-ordinate this without having to deliver everything themselves.

- HEIF has been a really valuable source of match for universities' SME engagement activities. Universities should consider how future HEIF can be used to lever additional investment from ESIF.

- Different projects vary in how much financial contribution is required from SMEs, and this can sometimes look pretty arbitrary to

both universities and SMEs seeking support. Some consistency is needed both within the university and across the wider business support offer.

- Some SMEs can become serial users of university business support. This may be a good thing, but universities should consider a tiered pricing structure which asks for a higher financial contribution after the first intervention.

- SME engagement projects need a range of staff with different skills working together – academics, knowledge exchange specialists and European funding experts. Build effective internal teams who understand and value each other's contributions.

- A business perspective on which SMEs should be supported can be helpful. Consider setting up an appraisal or assessment panel to give business advice to the project managers, using transparent and commercially-relevant criteria.

- Try to keep academic staff and SMEs away from the complexities of ESIF programme rules.

- Think about information gathering for audit purposes from the earliest stages of the project and design it to be as straightforward as possible, given the regulations.

- Universities have often experienced delays between an initial call for proposals and the final contract. To minimise this, avoid being over-optimistic about timelines, make sure proposals are subject to tight quality assurance before they are submitted, and use

rigorous project management for the application as well as the delivery stage.

- Accounting for detailed expenditure can be a real burden in revenue-funded projects. Give serious consideration to emerging options for a unit-cost or fixed-cost approach. Specific good practice points in relation to graduate placement schemes

- Graduate placements projects have used both ERDF and ESF successfully, although there is a view that the ESF outputs are easier to work with. This may be different in the next programme so consider carefully whether it is better to position a project as principally benefitting businesses or individuals. Adding a training and mentoring element to graduate placements is highly valued both by businesses and graduates.

Specific good practice in relation to PhD and Masters schemes

- A clear link between PhD research focus and key programme and business priorities will help to persuade funders about the value of generic PhD level skills.

- PhDs can be a good way of introducing SMEs to universities for the first time, but projects which are fully funded are obviously more attractive. Some universities have found SMEs reluctant to engage if match funding is required.

Specific good practice in relation to innovation voucher schemes

- LEP area ESIF committees will want voucher schemes to be clearly demand-led. Universities may still be the best lead body to deliver these schemes, but SMEs should be as free as possible to buy the support they need, not restricted to particular institutions or services.

- “You have to kiss a lot of frogs to find a prince”. Universities need to be clear with stakeholders that innovation is a risky business and some projects will fail. The success of a scheme should be judged overall, not case by case.

Focusing on new opportunities

- **Widening participation and higher level skills**
- **Student enterprise and employability**
- **Social innovation**
- **Low carbon economy and resource efficiency**

The 2014–2020 ESIF programme offers new opportunities to the HE sector to help develop the skills and social cohesion of their local and regional communities, in ways not supported under previous programmes. So although the sector's main contributions are likely to remain in the areas of R&D, innovation and knowledge exchange, universities should not limit their dialogue with LEPs to just these thematic objectives.

In this section, we briefly explain these new opportunities and consider some emerging examples of good practice, particularly widening participation and higher-level skills, student enterprise and entrepreneurship, social innovation and low carbon economy. These are largely new areas, so we describe best practice as ‘emerging’: it remains to be seen how well-embedded these areas will become over time.

Widening participation and higher-level skills

What is it?

Many LEP ESIF strategies identify significant skills gaps at higher levels, particularly skills which support Smart Specialisation investments or important local industry clusters. The term higher-level skills is used to describe a broad range of skills and

qualification levels, from NVQ4 and Foundation degrees up to postgraduate research skills and advanced industry-specific expertise. Skills gaps often manifest themselves in industry reporting persistent difficulties in recruiting key staff, for example, those with advanced engineering, ICT and technical skills.

When addressing social inclusion and social mobility, many LEP ESIF strategies identify particular groups who fail to progress to higher skilled employment in the workforce, although not all follow this through by identifying strategies to address the problem. This includes, for example, some ethnic minority groups trapped in low-skill, low-wage employment or a lack of women in graduate-level engineering and technical jobs. The term ‘widening participation’ in HE refers to efforts by universities to recruit students from under-represented groups. University access agreements set targets according to each university's recruitment profile and most universities spend significant sums on activities including summer schools, student ambassador programmes, access courses and bursary funds.

What does the programme guidance say about it?

The new ESIF programme can benefit people from the most disadvantaged

communities by supporting additional activities designed to increase access, support retention and reduce drop-out from university programmes. It can also address current or predicted skills shortages, particularly where this addresses the needs of SMEs, by investing to boost HE participation by targeting under-represented groups.

The new programme can also support the development of higher-level skills for innovation in SMEs, higher-level vocational provision linked to LEP growth priorities, and higher-level skills programmes to help unemployed people move into work or to help people to progress within the labour market.

BIS guidance is clear that ESIF must not be used to substitute for tuition fee loans; although exceptions may be considered we understand that there is a general presumption against using ESF to reduce course fees for students. Development costs and the additional costs of engaging SMEs in course provision however can be supported.

Universities may use their own funds as match, and may also include mainstream activities as match as long as they fall within the scope of the ESIF programme, relating to the kinds of activities set out above.

How can universities contribute?

Many ESIF strategies to tackle higher level skills shortages or the skills dimension of social and labour market mobility are not yet well-developed. We are aware of only a few places in which this has formed part of the ESIF discussions between LEPs and universities. In many places, higher-level skills have been seen as the preserve of the Further Education sector which undoubtedly has a great deal to offer: the distinctive contribution of universities, though, has potentially been overlooked.

Higher-level skills have not been eligible for support through the England 2007–2013 ESF programme except in Cornwall and the Isles of Scilly, so the examples we have of work in this area come from the Combined Universities in Cornwall (CUC) partnership as well as from the Highlands and Islands and Wales. In each of these areas, the ESF programme included a suite of higher-level skills activity which typically included access and taster courses, short vocational course provision, graduate placements and PhD programmes, packaged into what in the new programme might become a higher-level skills ‘operation’.

The Cornwall and Isles of Scilly Convergence ESF programme 2007-2013 took an integrated approach to a suite of higher education and higher level skills investments with the CUC partnership, which included HE/FE colleges as well as universities. Higher education investments identified four areas for support: Research (through

a PhD programme), Graduate Placements, Enterprise including vocational short courses and Raising Aspirations. Investment was managed through a direct bidding approach with match funding provided by universities and colleges rather than through co-financing. Included in this is an innovative Raising Aspirations programme in partnership with a range of community groups and organisations including TUC UnionLearn, offering free information, advice and guidance on higher-level skills and bite-sized taster courses to participants who were identified as very hard to reach through traditional university access programmes.

The Higher Skills Wales programme, implemented during the 2007-2013 programme, has offered an integrated package of business-facing skills support with the benefit of significant investment from ESF in four areas: Work Based Learning, Foundation Degrees, Access to Masters and Knowledge Economy Skills Scholarships (a PhD programme).

A university consortium in Manchester is currently developing proposals for a £16m ESF higher level skills operation for the new programme. The proposal (which is not yet agreed) is a major adjunct to the Greater Manchester LEP strategy for educational attainment in relation to inward investment, growth and lifting individuals out of benefit dependency. The proposed programme creates a single ESF operation covering widening participation, placements and internships, undergraduate and

graduate employability programmes, extra-curricula enterprise skills and entrepreneurship, postgraduate taught modules and courses and postgraduate research in selected sectors and disciplines. £16m of match funding is planned from a mix of mainstream funded activity, university philanthropic sources, company contributions and self-funding via the university. Beneficiaries would need to live or work in the Greater Manchester area.

The criteria are likely to be refined as the proposal is developed, but the examples provide an important starting point which other local university partnerships could discuss with LEPs in their own contexts. Appraisers will want to be satisfied that any ESF investment in these activities clearly goes above and beyond what is expected of institutions as part of their mainstream, nationally funded provision.

Student enterprise and employability

What is it?
Student enterprise and entrepreneurship refers to a range of activities designed to better prepare graduates for the world of work and to encourage and equip them to consider starting a business as an alternative to employment. Student enterprise has become a major part of many universities’ offer and there is a range of support programmes, awards and start-up funding schemes available to help students establish a business. Many universities are also keen to encourage their students into

employment with local enterprises but this presents its own challenges: student placements and projects during undergraduate or postgraduate programmes of study can be an important way of building links with local employers.

Many ESIF strategies include evidence of the proportion of local students whose skills are lost to the area on graduation: dealing with this issue can address skills gaps and raise skill levels in local SMEs.

What does the programme guidance say about it?

The new programme is clearly open to investment to support student enterprise and employability. Guidance says that ESF may support:

- The setup and management costs of activities to involve SMEs in skills provision (e.g. employability activity delivered by SMEs, setting up work placements and projects, internships, graduate placements).
- The costs of specific modules (additional to the core credit-bearing element of HE programmes) designed to prepare undergraduates and postgraduates for employment or self-employment or to increase the effectiveness of those who secure employment in SMEs.
- Specific activity (development or delivery costs) targeted at increasing the employability of particular groups – including graduates – who are under-represented in the workforce or who face particular barriers to gaining employment for example people with a disability.
- Activity to develop self-employment and entrepreneurial skills to start and grow a business or social enterprise.

ESF investment can support the time of staff fully engaged in delivering ESF activity.

How can universities contribute?

Many universities have extensive experience of using ESIF to support student enterprise and employability initiatives, and we touched on a range of these in our case studies:

- Manchester Metropolitan University runs an extensive MMU Futures programme which is in part supported through the North West Universities’ ESIF-funded HE Enterprise Champions scheme. MMU Futures includes short courses to introduce students to entrepreneurial options and freelancing and develop their entrepreneurial skills, plus start-up boot camps and one-to-one business mentoring.
- The Coventry University Institute of Applied Entrepreneurship combines research and enterprise support to students. It promotes a collaborative culture of enterprise among students and local businesses, offering a full range of business support including one-to-one business mentoring complemented by an enterprise hub, social enterprise support and a virtual office suite.
- The Enterprise Centre at Lancaster University – also supported through the North West Universities Enterprise Champions programme – offers a range of student enterprise support in partnership with the Students’ Union, and social enterprise support linked to the national partnership with UnLtd (see social innovation below). The Fast Forward to Business programme offers workshops and mentoring for student

entrepreneurs, with links to enterprise leads in each of the main faculties and a specialist Institute for Enterprise and Entrepreneurship Development.

We would expect that appraisal of proposals for additional ESIF support for student enterprise and employability will give particular attention to additionality: universities will need to provide a clear justification that the proposal goes beyond their mainstream provision in scale and/or scope.

Social Innovation

What is it?

Social innovation is the process of finding and implementing new ways to tackle major problems that affect society as a whole or specific groups. It draws on the determination and knowledge of local communities, voluntary organisations and social entrepreneurs, alongside businesses, individuals and researchers. Social innovation seeks to deliver better social outcomes by drawing on collective resources of time, skills, networks and relationships – often using new technologies – to build scale and spread change.

Small, specialist, creative and community-focused HEIs, in particular, could find new opportunities to use their expertise to address these areas.

What does the programme guidance say about it?

In terms of eligibility, the approach to social innovation in England has three potential components:

- An essential element is the active

leadership and involvement of groups of local people at all stages of the life-cycle of a project.

In addition, at least one of the following desirable elements will be required:

- The development of innovative ways of working which are more socially aware, leading to delivery of greater commercial or non-commercial value that is capable of greater scale and/or wider use; and
- The exchange of knowledge between research centres, businesses and other organisations to develop and bring new products and services to the market or to wider use.

How can universities contribute?

Many universities are involved in research and professional development focused on societal issues in health, social care, housing, education, employment and many other fields of practice. Some are also involved in developing new and innovative ways of engaging local communities in shaping their own futures, for example working with community organisations in the Welsh Valleys to use the creative arts to build a positive future for communities facing decline of traditional sources of employment. There is scope to explore with local partnerships how ESIF can support this work, particularly for example by investing in community engagement, partnership building and trialling innovative user-led approaches to public service delivery. HEFCE and social enterprise charity UnLtd have supported a national initiative to help universities become

local hubs for social enterprise support. Universities involved in this initiative might consider whether some of their activities could be developed with further ESIF investment, using national and mainstream funding as match. Examples aplenty are available at <https://unltd.org.uk/seechange>. The BIG Lottery has also offered match funding through an opt-in prospectus focused on the social inclusion and poverty thematic objective, and this also has the potential to support social innovation and social enterprise. There are varying degrees of LEP engagement with this offer: universities may have a role in bringing social and community partners to share ideas about interventions that could be developed

Low Carbon Economy and Resource Efficiency

What is it?

These terms refer to a range of initiatives to

- Develop low carbon solutions and ecosystems goods and services
- Ensure these solutions are taken up by businesses and civil society
- Encourage businesses to operate in a resource efficient manner.

What does the programme guidance say about it?

Several thematic objectives refer to the low-carbon economy, principally Thematic Objective 4: supporting the shift towards a low carbon economy in all sectors, and Thematic Objective 6: preserving and protecting the environment and promoting resource efficiency. There may also be

opportunities to promote this agenda through SME growth (Thematic Objective 3) and innovation (Thematic Objective 1) activities. Some LEPs may also have identified requirements to develop skills to grow the low carbon economy through ESF.

How can universities contribute?

Higher Education is specifically mentioned in relation to knowledge transfer and innovation in low carbon technologies, and the University of East Anglia's Low Carbon Investment Fund for SMEs. Several of our case studies have covered R&D and innovation investment specifically relating to aspects of low carbon innovation, including the Centre for Eco-Innovation at Lancaster and Liverpool Universities and the Environment and Sustainability Institute, PRIMaRE and Marine Innovation Centre initiatives at the Universities of Exeter and Plymouth.

Another significant partnership initiative to build a cluster of low carbon activity – a potential 'operation' for the new programme – is the Cumbria Energy Coast. Plans include a new campus of the University of Cumbria, a research and innovation programme run in partnership with the University of Manchester and the National Nuclear Laboratory, and a specialist skills centre on the science park including research degree pathways supported by the University of Central Lancashire, which also hosts a range of business support initiatives for the energy sector. Both ERDF and ESF have invested extensively in the

Energy Coast initiative. University partners in and around York are planning a new innovation cluster to drive commercial opportunities in agri-food and bio-energy through a collaboration between the University of York, the Food and Environment Research Agency and a group of specialist research institutes and colleges working with global and local commercial businesses.

Key features of these existing and planned initiatives are:

- The environmental technologies and ecosystem goods and services sectors will be developed through significant commercial innovation and the development of new technologies, in which universities have an obvious contribution to make.
- The examples all show an holistic approach to large-scale development, including commercial science and technology parks alongside leading-edge facilities, R&D centres, university and college skills development, specialist support for businesses and dedicated grants and

investment schemes.

- A multi-disciplinary approach is needed to drive the large scale take-up of new technologies. Creative arts faculties with expertise in design and mass communications can play as large a part as technologists.

These will not be simple or quick projects to establish and deliver, and universities which want to play a part will need to invest time in nurturing partnerships and money in significant up-front development costs.

Next steps for universities

As we write this guide in the autumn of 2014, we are waiting for the ESIF operational programmes to be agreed with the EU Commission so that LEP area ESIF committees can begin to commission project delivery.

However, ahead of this formal agreement and so that programmes can hit the ground running, CLG has asked LEPs to establish local partnerships and for these partnerships to indicate what they want to see in their initial round of calls for proposals. The emphasis is shifting from strategic influencing to the development of proposals for delivery.

So what should those with strategic responsibility for ESIF in universities be doing at this stage? We would suggest seven areas for action:

1. Make sure that the university is represented on the local ESIF committee at an appropriately senior level, either directly or via another local institution or partnership. Let HEFCE and UUK

know if any difficulties arise in getting this agreed.

2. Don't be afraid to use your position as a member of the LEP area ESIF committee to hold out for an appropriate mix of investment in research and development, innovation and higher level skills, matched to the overall growth strategy for the area. The committee will work by consensus so be clear if you need to withhold your agreement: try to do this with other allies (especially from the business community) rather than alone, and have a constructive alternative on offer

3. Reach an informal understanding with local economic partners on the main contribution(s) that the university will put its efforts into in relation to the ESIF programme.

4. Focus this on a very few areas which are priorities for both the university and the programme: don't take a scattergun approach to ESIF but

do consider the new opportunities like postgraduate programmes and widening participation as well as more conventional capital projects.

5. Involve external partners in the development of these priorities, perhaps through a stakeholder advisory board, with particular emphasis on the business community

6. Communicate your priorities clearly with staff and partners, using the language of economic benefit and impact

7. Set up a development team, operating to proper project management disciplines and reporting to a senior leader, to be responsible for progressing each priority. Resource these teams properly with the capacity, expertise and experience they will need for proposal writing, feasibility studies, business planning etc. Investment at this stage can avoid a lengthy and fractious appraisal process if proposals are not clear and well focused.

Glossary

BIS	(UK) Department for Business, Innovation and Skills
Catalyst	Broad HEFCE fund which supports research, teaching and knowledge exchange
Catapult centre	A physical centre where businesses, scientists and engineers work side by side on late-stage research and development to generate economic growth
City Deal	Devolved responsibility of powers and funding for economic development from central to local government.
CLG	(UK) Department for Communities and Local Government
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Funds
ESIF Growth Programme Board	National managing body for the Growth programme
EU Commission	The executive body responsible for proposing legislation, implementing decisions and for the day to day running of the European Union
European Agricultural Fund for Rural Development	European agricultural fund which manages the rural development programme
European Court of Auditors	Independent external auditor for the European Union
European Structural Funds	Another name for European Structural and Investment Funds
Flat rate funding	A set amount of funding to deliver a project
Gross Domestic Product (GDP)	A measure of the economic performance of a country
Growth programme	The name given to the 2014–2020 ESIF programme. The previous programme was known as Convergence.
Growth Hub	A central point for businesses and individuals to access business support
GVA	Gross Value Added: an economic measure of the value of goods and services produced in an area, industry or sector of an economy. Used to measure the size of a regional economy
HEFCE	Higher Education Funding Council for England
HEIF	Higher Education Innovation Funding, HEFCE funding for knowledge transfer activities
Horizon 20:20	EU-wide research and innovation programme
IP	Intellectual Property
LEP	Local Enterprise Partnerships

LEP area ESIF committee	Committee with representatives from business, local government, the voluntary and community sector and others, which manages the ESIF programme locally
Managing Authority	A national body which manages ESIF and acts as a co-ordinator between the country and the EU. In the UK, CLG
Objective 1 and 2	Previous ESIF programmes
Operational programme	Sets out strategy and priorities for ERDF and ESF funding. High level information on how funds will be delivered, managed and evaluated including partnership arrangements.
Operations	Bundles or suites of smaller projects brought together for management and funding
Partnership agreement	Agreement between the EU Commission and the UK, sets out the UK's plans on how to use ESIF between 2014 and 2020.
Projects	Individual funded activities: see case studies for examples
RDA	Former Regional Development Agencies
Regional Growth Fund	£3.2 billion government programme supports eligible projects and programmes that are also raising private sector investment to create economic growth and lasting employment
Single pot	Former source of funding from RDAs
Smart Specialisation	Regions developing R&D and innovation activity based on what they are best at and particular competitive advantages
Social innovation	Ideas and activities which meet social needs of all kinds, extending and strengthening civil society.
TSB	Technology Strategy Board, now called InnovateUK, a national innovation agency. Funds, supports and connects innovative businesses to accelerate sustainable economic growth.
Unit cost funding	Project funding based on a cost per unit, for example jobs created
Universities UK	A body representing UK universities
YU	Yorkshire Universities

Further information and links to a wide range of useful resources including the latest on the 2014–2020 ESIF programme from the Department of Communities and Local Government can be found on the Yorkshire Universities website.

yuta.yorkshireuniversities.ac.uk

‘In all the smartest and most lucrative parts of the economy, universities seem to have played an important role... It is hard to beat places that combine pure research, applied research and teaching as centres of value creation in the modern world. They represent their own mini-clusters, and have the power to spawn major industrial clusters around them too. In terms of both regional and industrial policy, their role cannot be overstated.’

Economist and broadcaster Evan Davis in *Made in Britain*, published 2011

‘Universities are about ideas and research, and they are about education and training. And both of these aspects are increasingly important to economic prospects of all nations. As we fight to put our economy on a more secure footing we will be relying on universities more than ever before. When it comes to ideas and research we know that, across the country, a deepening association between universities and business is incredibly important – from spinning out new companies, to helping existing businesses to innovate and grow.’

Rt Hon Greg Clark MP
speaking at the Universities UK *Strength in Diversity*
conference, September 2014

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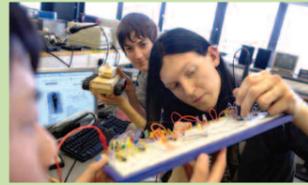
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Yorkshire Universities (YU) exists to promote the combined strengths of our members and to ensure that the creative power of Yorkshire's universities is applied to maximum effect for the benefit of the region.

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