Department for Business Innovation & Skills

MAPPING LOCAL COMPARATIVE ADVANTAGES IN INNOVATION

Framework and indicators: Appendices

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Appendix A: Innovation: definitions, importance and dynamics

What is innovation?

1. There is a vast, burgeoning literature on innovation. Given our remit, we have focussed attention on a limited number of key texts, especially those which discuss urban and regional innovation. Innovation has been defined in many different ways and has generally been viewed more expansively over time as analysts have come to appreciate its complexity. Some recent examples are shown below.

1. **OECD** defines an innovation as "the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations" (OECD, 2005). Eurostat provides cross-country comparisons of innovation defined in this way in its Community Innovation Survey.
2. **BIS** defines innovation as "the application of knowledge to the production of goods and services" and as meaning "improved product and service quality and enhanced process effectiveness" (BIS, 2014a). BIS, like OECD, see innovation as extending beyond research and development ("creative work undertaken on a systematic basis to increase the stock of knowledge") to "activity that is new in its context, such as implementation of a new or significantly improved product, service or process, a new marketing method or new organisational methods" (BIS, 2014b).
3. **NESTA** defines innovation as "the ability to turn ideas into useful products, services and ways of doing things." In its innovation index report, NESTA defines innovation as "the growth in output or value added created by new products and services, processes and ways of working over and above the contributions of physical capital and labour." Innovation is gauged by measuring investment in intangible assets (which include software, design, product development in financial services and artistic creation, investment in brands, firm-specific human capital and organisations), improvements in employee knowledge attributable to qualifications and experience and the benefits of freely-available knowledge (NESTA, 2012).
4. "Innovation is a process that links together regional knowledge, assets and networks to transform ideas, insights and inventions into new processes, products and services that capture global market share" (**Council for Competitiveness**, 2005).

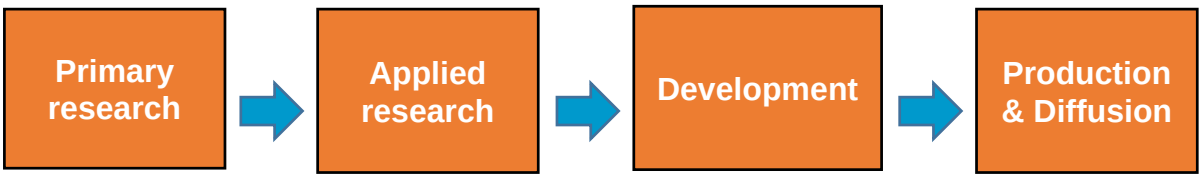
2. The common denominator of these slightly different interpretations is a concern with novel or significantly upgraded products, processes and services applied in such a way as to have commercial value.

3. As innovation is an inherently uncertain matching process linking technological development and market demand, innovation processes rely on extensive

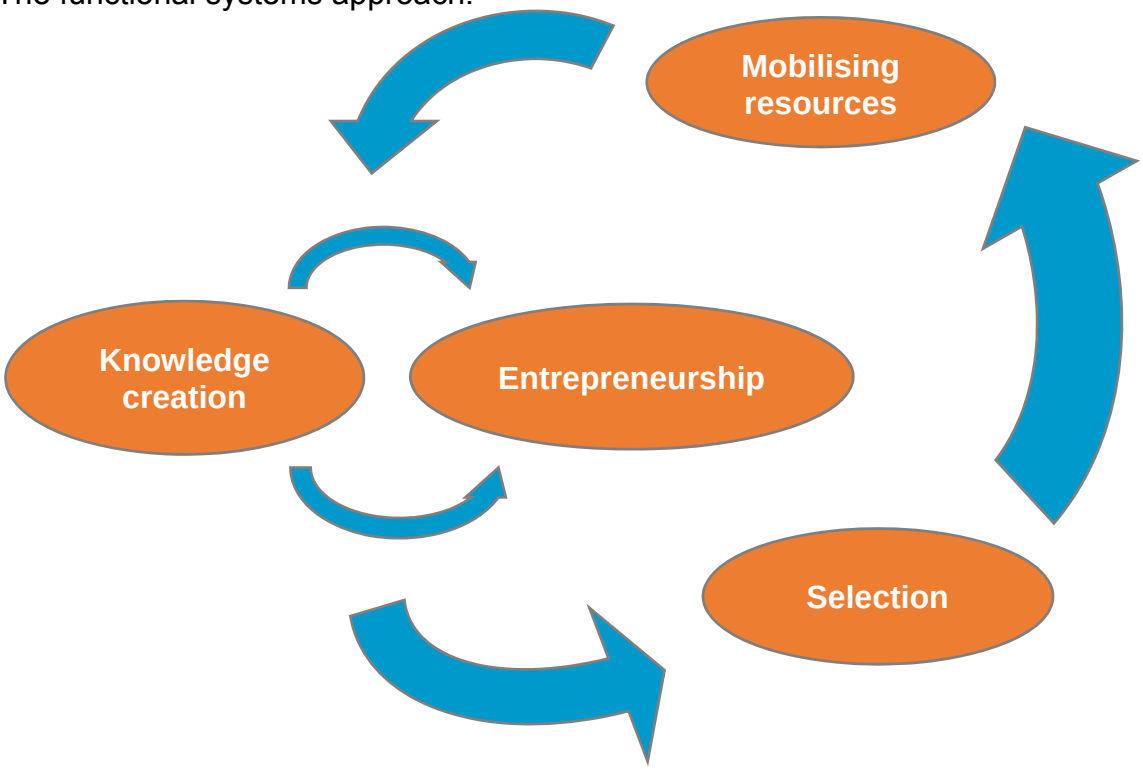
experimentation, accumulation of technological knowledge and firm-based organisation (Freeman, 1982; Dosi, 1982; Nelson and Winter, 1982). Such is the complexity of modern goods and services that a wide range of actors contribute knowledge and resources including 'entrepreneur-inventors, R&D laboratories, firms, their supply chains, customers, universities and producers of capital goods' (Coad et al, 2014). Whereas innovation was once viewed as a linear process beginning with research and invention and ending with its commercial exploitation, today it is considered to be multi-faceted, multi-directional and non-linear, the product of a combination of various assets and also networks and interactions between many players – businesses, universities, research bodies, funders, business support organisations and innovation infrastructure bodies (BIS, 2014). These networks generate the flow of ideas and spread knowledge and consist of varying types: business to business, university-business, public and private, formal and informal, global and local and supply chain linkages (Crowley, 2011). Figure A1 contrasts the linear view of innovation with the more dynamic functional systems approach in which knowledge and ideas are transformed into new products and services.

Figure A1: Different conceptions of innovation

The traditional linear view:



The functional systems approach:



Source: NESTA; Ennis & Kozdras, 2011

4. The nature of innovation continues to change rapidly - it is becoming faster, more multidisciplinary, collaborative, global and democratised in the sense that workers and consumers are increasingly involved in innovation processes (Council for Competitiveness, 2005). Also innovation is usually cumulative since innovation within firms and also that which involves external organisations tend to generate yet more innovation (BIS, 2014h). Diffusion and absorption as well as creation of innovations matter since the benefits do not always accrue to the firms that generate them. The success of high technology companies depends upon the extent to which their innovations are adopted by lower tech industries (Robertson et al, 2009). Rules, regulations and cultural norms also influence interactions and adaptation to new opportunities. Given the interconnected nature of innovation and number of institutions and actors involved, it is hardly surprising that analysts have shown increased interest in the nature and effectiveness of 'innovation systems' both at national and regional levels. A 'good' regional innovation system has been defined as one that encourages the rapid diffusion of knowledge, skills and best practice within its geographic area through a set of economic, social, political and institutional relationships that generate a collective learning process within a related group of technological or functional areas (Agrawal et al, 2014).

5. Many organisations such as the OECD have concentrated upon defining and measuring innovation in the business enterprise sector. Far less research has been conducted on gauging its nature and extent in the public sector and civil society. In recent years, greater emphasis has been placed on social innovation – the development of new products, services and models which meet social needs, improve human well-being and create new social relationships (EC, 2013). Innovation in sectors such as health, social services and education is also of increasing economic importance. Public organisations can not only innovate in their own right by, for example, introducing new forms of service delivery but also promote it through, for example, their procurement practices, setting market incentives and sponsoring research into pressing societal needs (BIS, 2011a; GES, 2014).

Why does innovation matter?

6. There is overwhelming evidence to suggest that innovation is crucial to long term economic growth. It creates new products, boosts demand by creating new markets, generates comparative advantage for companies and leads to improvements in productivity through more efficient use of labour, land and capital (Athey et al, 2007; Soete, 2011). Economic theories differ on many counts but they all concur that innovation is a key driver of growth (BIS, 2011). NESTA has estimated that 63% of productivity growth in the UK in the period 2000-2008 stemmed either directly or indirectly from innovation (NESTA, 2014). Previous research has shown that innovative businesses grow twice as quickly as non-innovative ones (Mason et al, 2009). Businesses that invest in research and other innovation also tend to create higher quality jobs and are more likely to export. The UK stands comparison with leading nations globally in terms of scientific discovery and academic standing, level of investment in innovation broadly defined (i.e. intangibles), skills base, sympathetic tax system and pro-business policies. However, the UK's productivity is a major issue as it continues to lag behind other major economies and since the country faces growing international competition. That said, recent research at the level of the firm

has shown that there is not a straightforward relationship between innovation and growth because the latter is episodic and depends on capturing the value of innovation as well as creating new products and processes (Coad et al, 2014). A combination of factors is commonly associated with business growth and competitiveness including innovative products and processes, engagement in R&D, export performance, human capital and the supply chain.

7. A large body of research has also shown that innovation in its various guises enhances urban resilience, that is the ability of urban economies to adapt to external economic shocks. Innovative milieu (Camagni, 1995), close collaboration between Higher Educational Institutions, businesses and governmental organisations which is often termed the Triple Helix model (Etzkowitz, 2008; Rodrigues & Melo, 2012) and also open innovation networks and innovation platforms are all significant in this respect. This is because they promote 'relatedness' of businesses through knowledge transfer, spillovers, re-combining knowledge in novel ways, horizontal integration and absorption between companies, universities, hospitals and public research bodies and also vertical links into the supply chains of major companies with global market reach and advanced knowhow (Asheim et al., 2006; Cooke, 2012; Outila et al., 2012).

8. While there is debate about the future incidence and pace of innovation, further advances in ICT and technological developments within specific fields and across subject areas coupled with the urgent need to overcome a long list of economic, societal and environmental challenges mean that it will remain crucially important (NESTA, 2012; EC, 2013). It is therefore imperative that the UK possesses an effective innovation system.

9. Interest in public innovation policy has grown not only for macro-economic reasons but also to address two main forms of market failure. Innovative activities spill over to firms and individuals who did not make the initial investment. Secondly, investments in innovation are highly uncertain, often entail heavy upfront capital investment and also involve long development and exploitation timeframes. Conversely, there are those who counsel that state interference can result in the selection of wrong technologies because of imperfect intelligence and that it can place barriers in the way of, or even crowd out, prospective investors (GES, 2014).

10. Policies promoting innovation are generally grouped into two categories: supply side and demand side. Supply side policies have traditionally been emphasised and they include the higher education research base, promoting collaboration between research bodies and industry, spin-out companies and supplying trained people. Demand side policies include public procurement, tax incentives and subsidies, information and training measures and regulations. There is a threefold rationale for demand-based innovation policies – responding to market and system failure on the demand side such as uneven information, high entry costs, path dependency, responding to societal needs and supporting the supply side of the economy (Edler, 2013). Research suggests that changes in customer needs and preferences are three times more important in creating innovation opportunities as other factors so demand matters a great deal (Business Decisions Limited, 2003). However, the demand aspects of innovation are difficult to isolate from supply-related ones (OECD, 2005).

What drives and inhibits innovation?

11. At a general level, competition and collaboration are both central to why firms innovate. Competition between firms for market share is a major incentive for firms to innovate. Many find that their ability to do so is in varying ways beyond their internal capabilities, requiring them to collaborate with other firms and make use of publicly supported infrastructure such as universities and research institutes.

12. Innovation depends not just on the creation of novel products and processes but also on their effective diffusion and firms' capacity to absorb and adopt them. Empirical work has shown that some sectors have more absorptive capacity than others with manufacturing and Knowledge-Intensive Services standing out (Harris & Li, 2009). There is also a spatial dimension to absorption. Research has shown that good access to knowledge networks, ability to exploit and extract value from external knowledge, the presence of economic clusters, strong universities, multinational companies and other anchor institutions, degree of synergy between internal and external sources of knowledge all affect locales' absorptive capacity (Mahroum et al, 2008). A particular area's capacity for innovation does not just depend upon its local assets and institutional relationships but also its openness and ability to utilise international innovations. As technologies become ever more complex, firms, researchers and experts must collaborate closely at every level to generate and absorb new forms of knowledge – this is usually termed 'open innovation' (BIS, 2011).

13. Sectoral mix is also an important innovation driver because different sectors innovate in different ways (NESTA, 2007). Cities with clusters of related businesses have been shown to promote more innovative activity (Audretsch and Feldman, 1996). However, it cannot automatically be assumed that clustering per se leads to innovation and enhances the economic performance of firms in clusters. Empirical evidence is mixed and partial. Scholarly research suggests that clustering can have a positive effect on innovation. Clustering tends to benefit firms in R&D intensive industries and those reliant on tacit knowledge which benefit more from co-location and firms in clusters that are densely populated by innovative firms and have a lot of accumulated knowledge (Audretsch, 1998; Beaudry and Breschi, 2003). There is also research suggesting that clustering of firms in related technology areas in Science Parks creates positive spillover effects (Helmers, 2010). Certain industries such as high tech manufacturing and Knowledge Intensive Business Service companies appear to benefit from the co-location of creative firms in advertising, software and design (Chapain et al, 2010). Both product and process innovation create spillovers in the supply chain though the former lowers the birth and death rates of suppliers whereas the latter raises both their birth and death rates (BIS, 2014h). This suggests that processes of creative destruction first identified by Joseph Schumpeter are occurring and that these need to be gauged using ONS business statistics.

14. There has been a tendency in the past, however, to make generalisations about clusters on the basis of particular success stories. It is difficult to separate out the effects of clustering from other factors which produce a successful regional innovation system such as high local productivity and wages (Duranton, 2011). Not all clusters are competitive and firms in them may suffer from being locked into outmoded

technologies and processes. Some of the supposed benefits of proximity such as sharing of resources and knowledge spillovers do not always materialise because some firms resist this, often for commercial reasons (Martin and Sunley, 2010). Clusters may also produce diseconomies such as congestion, competition and increased labour and property costs (Swann et al, 1998). For all these reasons it is probably unwise to place too much store on the importance of clustering per se.

15. Ever since Adam Marshall first identified industrial districts, economists have sought to examine the nature and extent of urbanisation externalities which derive from the way in which knowledge spillovers benefit different types of industries which are co-located in towns and cities. There is evidence to suggest that urban areas tend to provide better environments for innovators because they have open networks, extensive flows of ideas and offer good access to labour, finance, markets and specialist suppliers (Ennis & Kozdras, 2011). The collective evidence appears to suggest that the extent of these spillovers (or externalities) depends on urban size. Studies have shown that firms located in London and the South East and also the core cities have higher productivity than those located elsewhere (Overman et al, 2009; Harris and Moffatt, 2012). Overall, however, there is no strong evidence that location in British cities is encouraging growth (Harris and Moffatt, 2012).

16. Universities are widely seen as a key local innovation asset and driver. A large scale survey of 22,000 academics in a range of Universities throughout the UK showed that academics from all disciplines not just science and technology subjects are involved in the knowledge exchange process. This encompasses knowledge transfer and commercialisation, problem solving, people-based and community activities (Abreu et al, 2009). Universities' private sector partners included not just high technology manufacturing firms but also services and low technology sectors. These firms may be located locally, regionally, nationally or overseas depending upon the ethos and strengths of the university and also the sector concerned. Pharmaceutical companies and biotechnology firms are more inclined to locate research and development facilities near to leading chemistry research departments and related science parks whereas chemicals, vehicles and machinery industries are attracted more by areas with relatively large numbers of manufacturing jobs (Ruegg & Feller, 2003; Abramovsky & Simpson, 2008). That said, innovative firms in such sectors which are located near to universities are more likely to engage with them than firms in general. Universities also often contain public sector research establishments which support industrial innovation by providing scientific support, problem solving capabilities, spin out companies and also supply infrastructure in the form of sophisticated technology and skills. It must however be remembered that many significant innovations do not involve universities or research establishments. For example, some firms innovate internally or through purchasing knowhow. Innovation may also materialise as a result of simple technological shifts rather than from research and development.

17. Another way of promoting innovation is to attract foreign direct investment in key sectors. FDI has, for example, revivified the British car industry. Foreign owned companies are a major source of patents and drive innovation through the supply chain (NESTA, 2012). Studies have shown that the degree to which output in LEP areas is controlled by foreign-owned plants and their export performance are correlated (Harris, 2014). Foreign subsidiaries make more use of external knowledge

than their indigenous counterparts and exporters make twice as much use of knowledge sources when innovating compared with non-exporters. On the other hand, studies investigating whether attracting foreign direct investment into the UK necessarily leads to higher productivity in local firms have produced mixed results (see Bascavusoglu-Moreau & Li, 2013). Much depends upon indigenous firms' degree of absorptive capacity, whether they are engaged in R&D activities and whether external sources of knowledge are crucial to local firms' performance (Todo & Miyamato, 2002). There is also considerable evidence to suggest that overreliance on FDI can be a risky strategy. The nature of the FDI is critical as it can range from R&D intensive companies to routine manufacturing and back offices. Markets and technologies can quickly change rendering some plants obsolescent (Simmie et al, 2008).

18. Some commentators have adopted a more evolutionary historical perspective to understanding innovation performance and potential. They argue that "a city region's past determines what is possible while the present controls what possibilities are explored" so called 'path dependency' (Simmie et al, 2008). Localities create new development pathways which stem from indigenous assets, specialised diversity, inward investment and diversification. They tend to go through a cycle, initially enjoying a growth phase before losing momentum and encountering problems of inertia and technological 'lock-in.' The latter can prove very difficult to escape from but in some cases renewed sources of dynamism are discovered. All innovations are also 'recursive' - containing within them older innovations, often re-combined with other past innovations (NESTA, 2012). While OECD maintain that innovation involves implementation of new products and processes, conceivably 'failures' may eventually spawn innovation too because they add to the bank of new ideas.

Appendix B: Measuring innovation at the local and regional level

1. Drawing upon a literature review, this Appendix briefly:

    1. discusses attempts to measure innovation, especially at the local and regional level.
    2. summarises other research which has either mapped innovation strengths at the local/regional level or is in some way relevant to this assignment.
    3. reviews conceptual frameworks for understanding and measuring local and regional innovation systems.

How is innovation measured?

2. Regional innovation systems have been measured in two ways. The 'linear' approach adopted by the EC in its Regional Innovation Scorecard distinguishes innovation inputs and outputs (EC, 2014). The former typically include levels of R&D investment, human capital investment, the latter productivity growth, citations of academic journal articles, patents. The more dynamic 'functional' approach focuses on system functions such as knowledge creation, absorptive capacity, governance, diffusion, demand, social filters, agglomeration economies, R&D expenditure and regional accessibility (Hajek et al, 2013).

3. Innovation and its effects have however proved difficult to capture and pin down for a host of reasons:

    - It is a dynamic and a continuous process.
    - Innovation and its ingredients take time to register effects.
    - Some forms of innovation such as those arising from spillovers cannot be properly captured by secondary data and require qualitative analysis of potential innovation users, market and technology regulators, research and technology organisations including universities and investors (Medhurst et al, 2014).
    - There is no straightforward relationship between innovation assets and outcomes at the local level which may in part be due to different policy approaches being pursued at that level.
    - The science and innovation system is not the only influence on the economic and social wellbeing of localities and associated outcome measures.
    - Outcomes of different innovations are not only difficult to separate out from other factors but also difficult to gauge accurately, especially in the absence of firm-based information linking for example product innovations and additional sales. Outcomes are also uncertain.
    - Available measures only capture part of the story and are also at a premium at sub-national level.

- All the commonly-used measures have drawbacks - for example, patents vary greatly in value, some innovations are not patented and others are covered by multiple patents and they may be registered in different locations (e.g. head offices) from where they originated; it must also be remembered that many notable innovations did not involve use of patents.
- Service innovations which often involve organisational change, training and other intangibles are very difficult to measure and even more so at the sub-national level because of insufficient local data about purchasing of goods and services.
- Defining and measuring regional innovation systems and their effectiveness is a complex, difficult task owing to their involved structures and is a matter of informed judgement (EC, 2014).
- Regional innovation systems involve multiple actors and objectives – benchmarking their comparative performance attempts to reduce these to a single set of policy objectives and metrics which is very challenging (Manjon, 2010).
- A series of small incremental changes which tend to be harder to identify and measure may lead to significant change in the same way that a major, ground-breaking innovation does.

4. A major cross-departmental Government review of innovation has shown that there are many evidence gaps and lack of metrics. It is not clear what constitutes a good, collaborative research base, how Government can effectively promote absorptive capacity and how that can be measured, which forms of innovation diffusion and pathways to impact work best such as university-business collaboration, conferences, publications and consultancy (GES, 2014).

Other research mapping local/regional innovation strengths

5. This research is timely because there is a growing amount of interest and research into innovation at the local level:

1. A significant amount of spatial mapping has already been carried out for the Witty Review on Universities and Growth including industrial strategy sector strengths using location quotients; universities with Research Council funding in the eight great technologies; number of STEM graduates; top universities in STEM subjects, consultancy, contract research, continued professional development and graduate start-ups; citations for research in each Industrial Strategy sector and Eight Great technology; HEI research income; Catapult Centres (The Witty Review, 2013).
2. BIS has commissioned separate work on the extent of industrial clusters in LEPs based upon location quotients of workplace-level data from the Business Structure Database and also disaggregation of UK Innovation Survey data to LEP-level showing trends in the incidence of product/service/other types of innovation (ERC, 2013; 2014).
3. Some UK Innovation Survey data such as the proportion of highly innovative and innovation-active businesses has been presented and analysed by region (Coad et al, 2014; BIS, 2014f).
4. Research has been commissioned by the LEP network on LEP areas' economic performance and growth potential which looked at the incidence of employment

in knowledge based industries and advanced manufacturing, patents, higher order skills and qualifications, exporting, foreign direct investment (Athey Consulting, 2014).

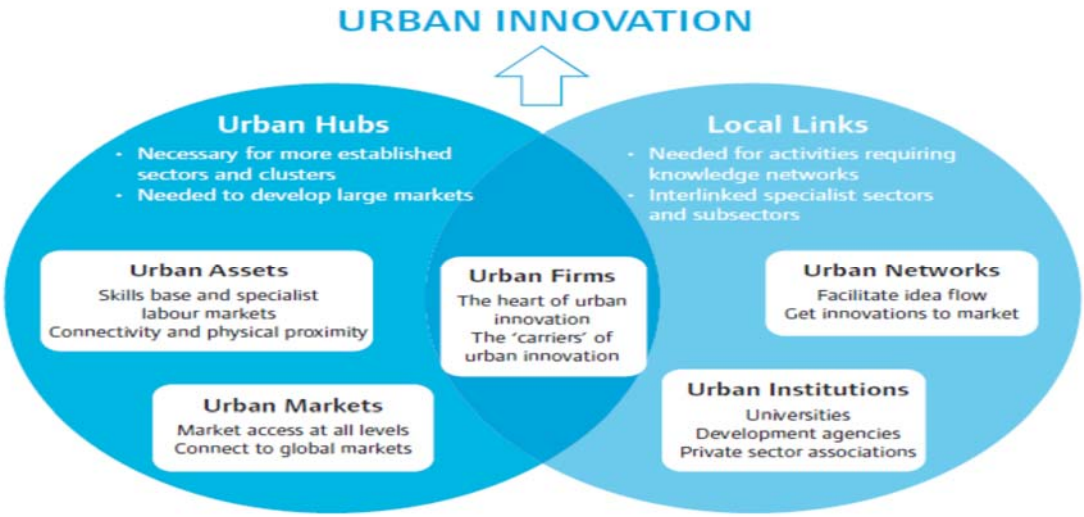
5. Information on the allocation of funding for innovation related activities is increasingly available at the LEP level (e.g. Innovate UK).
6. A recent study has sought to highlight the main innovation hubs across the UK using a basket of indicators for measuring innovative outputs, ideas and inventions, innovative people and research and development and technology. It also gauges the strength of the local innovation system using a combination of indicators measuring government funding, connectivity, talent pool, living costs, entrepreneurial culture, university presence and mobility (CEBR, 2014).
7. Research on the UK's key economic clusters and their dynamics, barriers, potential is not only useful in its own right but also because it shows that these are spread around the country and that a combination of promotion, infrastructure, talent and financial, regulatory and professional support are critical to their growth (Centre for Cities & McKinsey & Co, 2014).
8. Research commissioned at regional and LEP level on science and innovation strengths similarly provides useful local evidence (e.g. NWBLT, 2014; Pywell, 2013).
9. Mapping of creative industries hotspots across Britain at regional, travel to work area and micro level (MSOAs) by constructing a database and establishing complementarities between certain creative sectors such as advertising, design and software and innovative businesses (NESTA, 2010).
10. Recent research at the national level has helped resolve definitional problems which potentially paves the way for similar work at a more local level (e.g. the patent landscape reports on the eight Great Technologies (IPO, 2014)).

6. This research assignment draws upon and seeks to consolidate and build upon such research and intelligence.

Conceptual frameworks for understanding urban and regional innovation

7. Most approaches to understanding innovation at the city and regional level are rooted in a combination of urban theory, economic geography and literature on innovation systems. The Centre for Cities in a report to NESTA drew upon these to produce a framework consisting of two overlapping elements: 'urban hubs' which incorporates urban assets, market size, companies and their networks and 'local links' which includes urban institutions, networks/collaboration and again urban firms (Athey et al, 2007). This is presented in Figure B1. Localities can be strong or weak to varying degrees in terms of these two elements and their constituent characteristics.

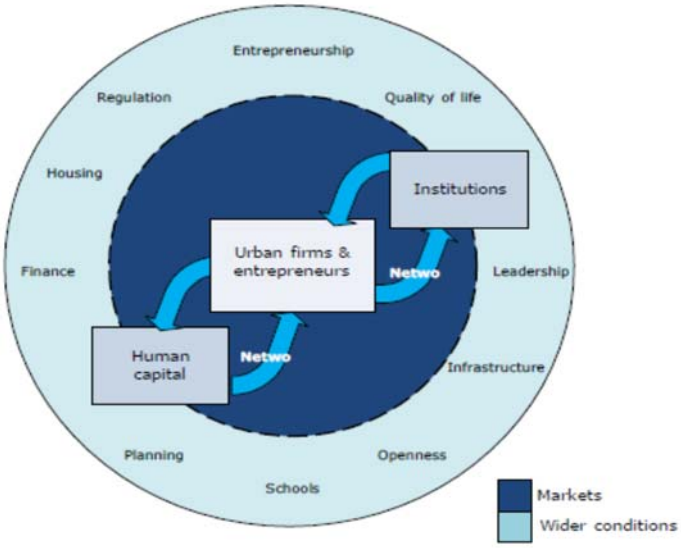
Figure B1: Urban innovation inputs and processes



Source: Athey et al, 2007

8. Crowley like the Centre for Cities positioned urban firms and entrepreneurs at the heart of the urban innovation system but placed more emphasis upon the distinction between markets for innovation and the wider conditions which can promote it (Figure B2). She then developed a five-fold typology for different kinds of place in innovation terms: high performing innovative cities (highly productive, specialising in a range of knowledge intensive sectors and with a concentration of skilled labour); service sector innovators (highly productive economies specialising in high tech services and business service activities); high technology innovators (generating significant economic output and specialising in high tech manufacturing, often anchored by major firms); innovation potential cities (containing strong niches but lacking strong innovation ecosystems); low innovation cities (which have not sustained innovative firms or adjusted to the knowledge economy).

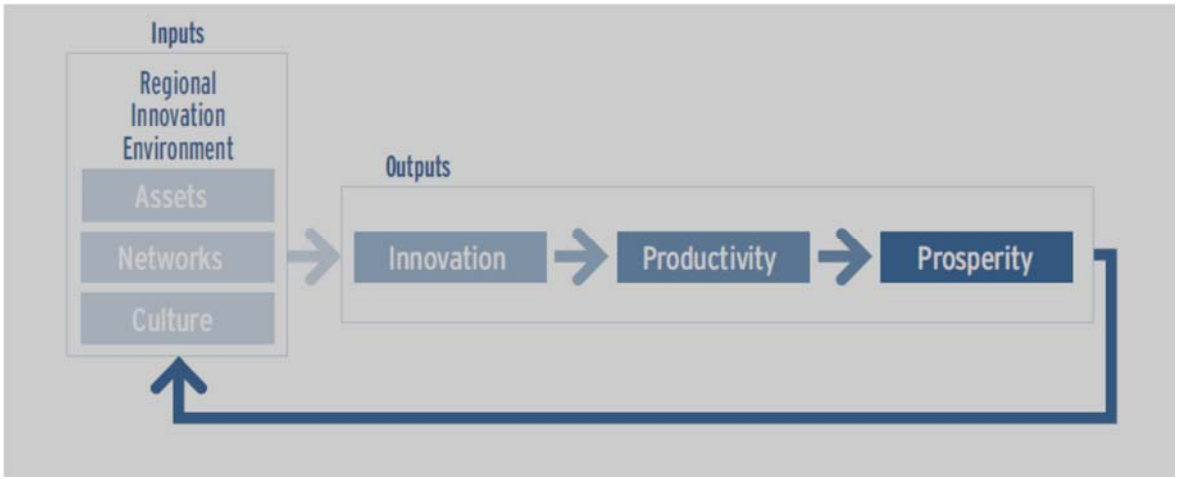
Figure B2: The urban innovation ecosystem



Source: Crowley, 2011

9. The US Council for Competitiveness has produced an innovation-based economic development framework which distinguishes between inputs and outputs (Figure B3).

Figure B3: Regional Innovation Environment Inputs and Outputs



Notes: *Assets* include availability of skilled labour, quality of transportation and ICT infrastructure, research and development institutions and investment, access to capital, industrial bases, legal and regulatory environment, quality of life. *Networks* refer to links between idea generators, managers and capital, collaborative partnerships and informal networks. *Culture* embraces the degree of collaboration and sharing between business leaders and other key institutions, attitudes towards risk-taking and respect for diversity and tolerance.

Source: Council on Competitiveness, 2005

10. Studies investigating the preconditions for the economic success of leading edge activities in different localities are also useful because they suggest relevant local

factors which should be taken into account. For example, research has shown that successful tech clusters typically have:

- A good skills base in relevant sectors;
- Close collaboration between entrepreneurs, investors, universities, research organisations, science parks, businesses and local government;
- Strong research base and knowledge transfer;
- Good transport and ICT infrastructure;
- Large hub organisations that play a pivotal role in funding R&D, training, producing spin outs, becoming a customer and supplier of local SMEs, improving the reputation of the area;
- Strong and responsive local leadership;
- Expertise in specific fields;
- Critical mass;
- An open culture for the exchange of ideas (Copeland & Scott, 2014).

11. As already noted many attempts have been made to benchmark and evaluate innovation systems, particularly at a pan-European level by ProInno Europe and Era Watch and the EMERIPA and STRINNOP projects. These have been distilled and developed by Manjon into a seven-fold framework containing the following elements: Research and innovation governance and strategic intelligence for policy making; support environment including regulatory framework, taxes and regional aid; technology and technology transfer; stimulation of innovative enterprises; intellectual property; regional support infrastructure; human resources (Manjon, 2010).

12. BIS have created a framework for mapping and benchmarking the UK innovation system against comparator countries consisting of 6 elements: money, talent, knowledge assets, structures and incentives, broader environment and innovation outputs. Many of these elements are affected by policy at the local to sub-regional level (BIS, 2014). BIS has defined the characteristics of an effective science and innovation system in terms of knowledge creation, diffusion and application using the six elements. Table B1 briefly describes each element and Figure B4 shows the relationships and interactions between them.

Table B1: Allas' Six-part framework for benchmarking the UK science and innovation system

1. Money: A key input into all parts of the system, used to invest in infrastructure, new knowledge, absorptive capacity and innovation.
2. Talent: The human capital required to demand, develop, share and exploit new and existing knowledge.
3. Knowledge assets: Intermediary outputs of the system that provide an indicator of its quality and potential and that are relatively easy to measure.

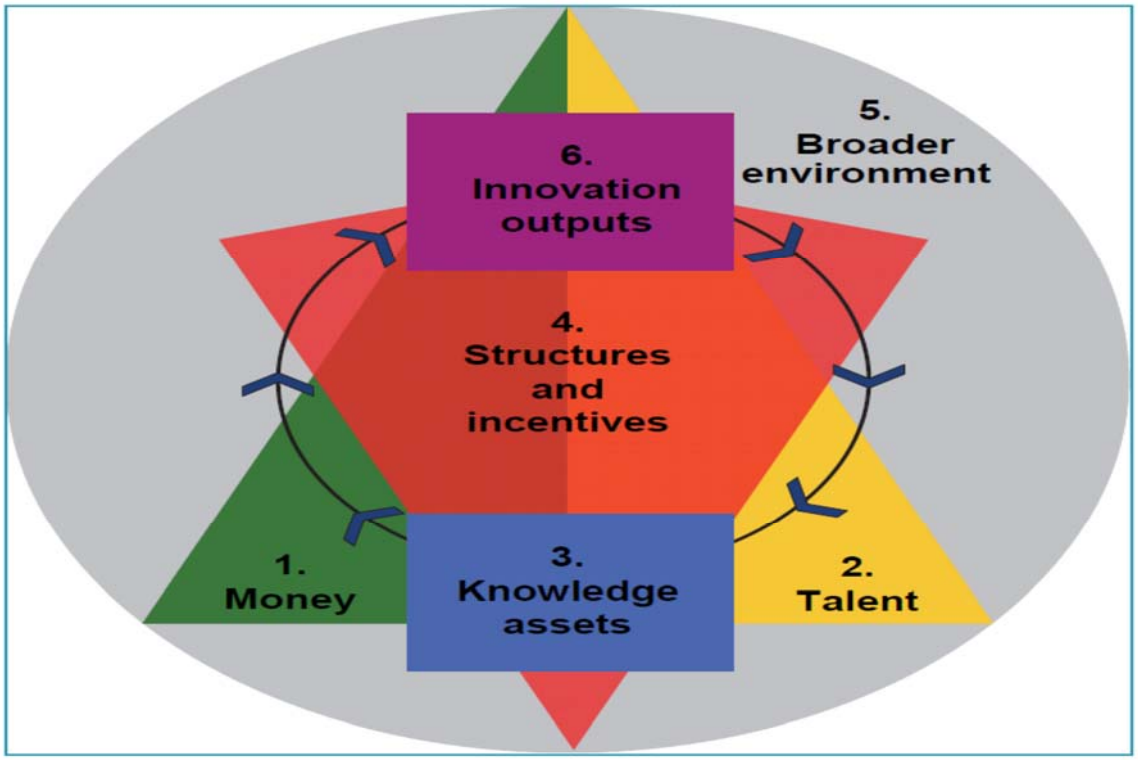
4. Structures and incentives: The institutions and interconnections that determine how effectively the actors in the system work together to generate outcomes.

5. Broader environment: The economic and societal context with which the science and innovation system interacts.

6. Innovation outputs: Measurable outputs that can be used as proxies for the ultimate outcomes sought, i.e. economic and societal benefits.

Source: BIS, 2014a

Figure B4: Relationship between the six Allas framework elements



13. Table B2 presents the indicators used in the Allas framework and Table B3 summarises the characteristics of an effective science and innovation system which provided the evidence base for it. Only some of the indicators are available at LEP level which makes it necessary in some cases to identify proxy measures to ensure that a LEP-based framework covers similar ground.

Table B2: List of indicators used to benchmark science and innovation performance

Money	Talent
M1: GERD (Gross Domestic Expenditure on Research and Development) as a percentage of GDP (Gross Domestic Product) M2: BERD intensity (Business Enterprise Research & Development) as a % of GDP M3: Government financed GERD as a % of GDP M4: Percentage of GERD financed by abroad M5: Government financed BERD as a % of GDP M6: FDI (Foreign Direct Investment) and technology M7: Seed/start-up/early stage venture capital as a % of GDP on Research and Development transfer M8: Later stage venture capital as a % of GDP M9: Financing through local equity markets M10: Investment in fixed and intangible assets as a % of GDP	T1: Literacy proficiency among adults (mean score) T2: Numeracy proficiency among adults (mean score) T3: Proficiency in problem solving in technology-rich environments among adults T4: Population that has attained tertiary education T5: Percentage of total first university degrees in science and engineering T6: International students as a percentage of total enrolment T7: Doctorate holders per thousand employed T8: Researchers per thousand employed T9: Individuals with tertiary level STEM qualifications T10: Firms' leadership and management capabilities
Knowledge assets	**Structures and incentives**
K1: Share of 1% most highly cited papers K2: Patent application per million of population K3: Academic/corporate co-authored publications K4: Quality of scientific research institutions	S1: Attractiveness to researchers and scientists S2: Intellectual Property Protection S3: Cluster Development S4: Government procurement of advanced technology products S5: SME collaboration with Higher Education institutions S6: International collaboration on innovation by firms
Broader environment	**Innovation outputs**
E1: Ease of Doing Business E2: Total Early-Stage Entrepreneurial Activity (TEA) E3: Intensity of local competition E4: Firm-level technology absorption (2013-2014) E5: Quality of demand conditions E6: Interest in science and technology	O1: Labour Productivity O2: Sales of new to market and new to firm innovations as % of turnover O3: Economic complexity index O4: Knowledge-intensive services exports as % total service exports O5: Technology balance of payments: surplus as % of GDP O6: SMEs introducing product or process innovations as % of SMEs O7: SMEs introducing marketing or organisational innovations as % of SMEs

Source: BIS, 2014a

Table B3: Key characteristics of an effective science and innovation system

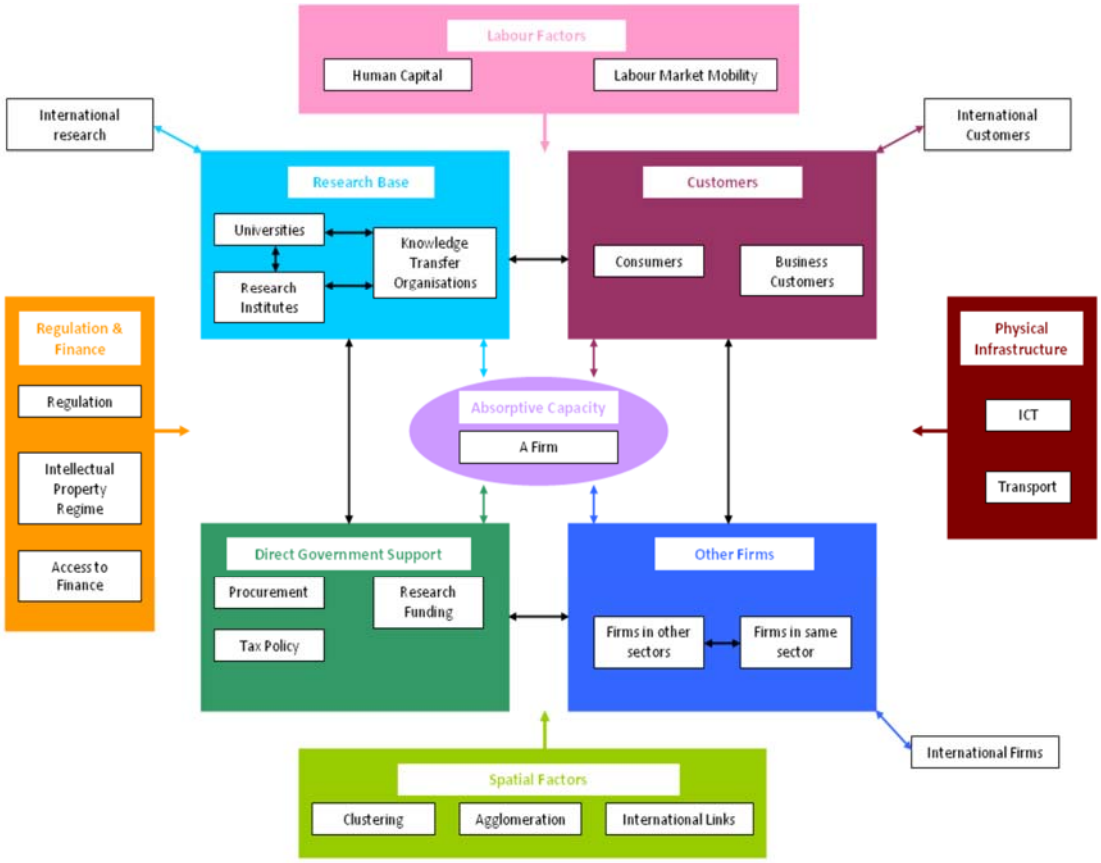
Knowledge creation	Knowledge diffusion and translation	Knowledge application and value capture
Money Sufficient public sector funded research (often performed in HE institutions) Strong private sector funded and performed research (relative to industrial structure) Funding from other sources (charity/third sector and overseas) **Talent**	**Money** Effective funding for applied research and innovation investment (public and private) Foreign direct investment into R&D facilities and translational activity **Talent** Sufficient quantity of individuals in firms and public sector with right absorptive capacity	**Money** Timely access to risk capital (alongside advice, skills, networks, market disciplines) Exit routes that provide access to markets and finance for growth companies **Talent** Entrepreneurial aspirations and business building skills

Ability to train, attract and retain world-class researchers Population instilled with intellectual curiosity and inspired by science **Knowledge assets** High-quality research infrastructure World-class, internationally collaborative, highly cited published research **Structures and incentives** Competitive excellence driven funding, with sufficient stable investment in new areas Balance between curiosity-driven ("pure") and needs-driven ("applied") research Balance between deep expertise and inter-disciplinary research Meaningful (public/private) career paths for world-class researchers **Broader environment** Sufficient number of companies willing and able to invest in knowledge creation	Specific science and technology understanding across a broad spectrum More generic basic, STEM, knowledge management and business translation skills **Knowledge assets** High-performing clusters with world-class research institutions and critical mass Strong business/academia co-authorship **Structures and incentives** Attractiveness of research roles for and mobility of global talent Incentives for and access to international collaboration Incentives for business/researcher collaboration, co-creation and mobility Sufficient co-ordination and strategic alignment among key actors **Broader environment** Open markets and competition encouraging innovation as a source of competitive advantage Mutually reinforcing activities within and links between science base and business population	General business skills (e.g., strategy, management, marketing, production) Basic skills (literacy, numeracy, problem solving, ICT) relevant for business productivity **Knowledge assets** Patents, trade-marks and other intellectual property that can be commercialised **Structures and incentives** Sufficient intellectual property protection to incentivise innovation and capture value **Broader environment** Productive dynamic between large firms and vibrant growth companies Sophisticated demand, including from citizens and public sector (procurement) Generally positive business environment (tax, regulation, planning, etc.) **Innovation outputs** Revenues, exports, profits, productivity and growth derived from science and innovation Improved societal outcomes due to better level and application of knowledge

Source: BIS, 2014a

14. Most recently, the major elements of the UK innovation system from the viewpoint of the firm have been portrayed in simplified diagrammatic form (Figure B5) in a cross-departmental review by the Government Economic Service of the evidence base for the effectiveness of public policies fostering innovation and knowledge diffusion (GES, 2014).

Figure B5: The Innovation System



Source: GES Group on Growth, 2014

Appendix C: Framework of local innovation strengths and LEP area typology

Appendix C1: Developing a framework of local innovation strengths

1. This Appendix describes the process that we went through to arrive at a framework and set of indicators for gauging local innovation strengths. It describes:

- Our initial conceptual framework and indicators for analysing local innovation strengths;
- LEPs' views on our proposed framework and indicators;
- Modifications to the framework in the light of LEPs' comments.

Developing a taxonomy of local innovation strengths

2. The starting point for developing a taxonomy of local and regional innovation strengths was to assess the suitability and robustness of existing conceptual frameworks on urban and regional innovation systems described in Appendix B. While each possesses merits, in our opinion the Allas framework provides the best template for this research for the following reasons:

- It was rooted in an extensive research programme on innovation including a major review of academic and other literature and therefore a good understanding of what makes for an effective science and innovation system.
- It is the most comprehensive and up to date and captures most of the other frameworks' content and what they are seeking to measure.
- Since LEPs are seeking to fulfil national policy objectives as well as their own, it seems logical to draw substantially from it.
- It was developed to benchmark the national innovation system against its international peers which makes it possible to compare local and regional strengths with national and international norms.
- It can readily be adapted to gauging local/regional innovation strengths.

The proposed framework

3. The framework takes into account why regional innovation systems matter and their main attributes discussed earlier. It also focusses on those factors which are subject to local variation. This has involved some minor adjustments to the content of the Allas framework. For example, the Allas framework underplays the significance of some broader environmental factors such as connectivity (ICT) and quality of life

which matter in terms of market access and diffusion and retention of highly skilled labour, respectively. We therefore incorporate these kinds of assets in our framework together with appropriate indicators. This framework does not discuss national givens such as Government procurement.

4. The framework also takes into account how best to measure innovation at LEP level. There are issues about data availability and diagnostic power. NESTA maintains that a good innovation indicator should balance accuracy, longevity, comparability and ease of collection. Unfortunately, and as already noted, only a limited number of the indicators in the BIS six-fold framework are available at the more disaggregated LEP level. There is a particular shortage of local and regional indicators relating to structures and incentives. A range of indicators are needed to capture the different types of innovation. For example, innovation in some sectors depends more on absorption of ideas from related sectors, melding existing technologies and organisational and services innovation rather than research and development activities and patents which have traditionally been used as metrics of innovation.

5. Figure C1 sets out the framework elements and headline indicators for gauging LEP's innovation strengths. Initially we identified 50 potential indicators but then on the grounds of manageability we narrowed them down to 15 'headline' indicators while being careful to ensure that we still covered the main framework elements, the key industrial strategy sectors and the Eight Great Technologies and both innovation inputs and outputs. The headline indicators are classified according to the innovation element to which they most closely relate. Table C1 gives more detailed information about each indicator, namely: definition, source, latest date available, spatial scale at which available and frequency of update. Apart from the LEP survey (Indicator 10), all the indicators are publicly available, reasonably easily interpreted and capable of being updated frequently.

Figure C1: Proposed Innovation Framework – Elements and Headline Indicators

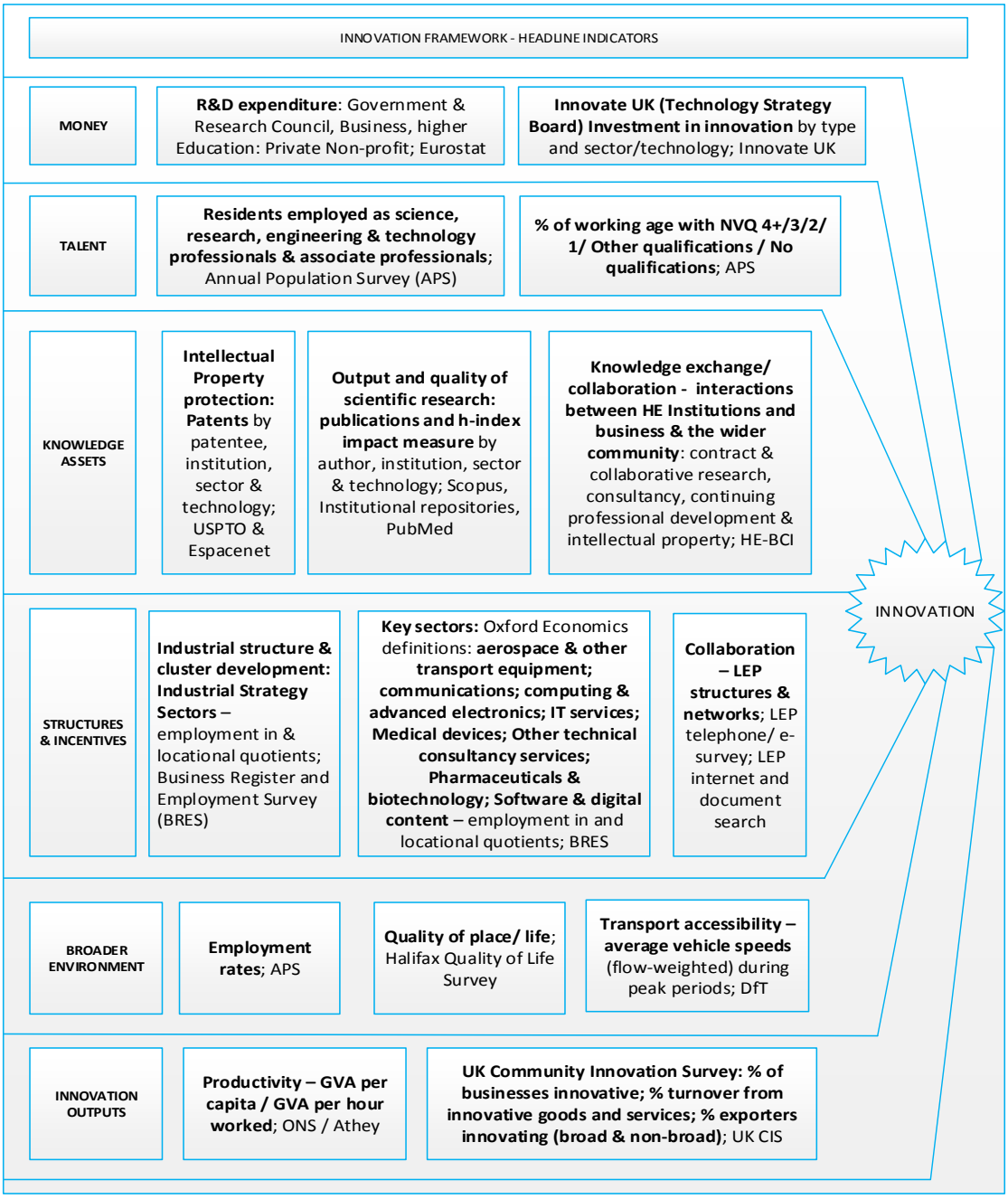


Table C1: Proposed Innovation framework – headline indicators

Innovation element	Indicator	Source; date; spatial scale; update frequency
Money	1. R&D expenditure: Government and Research Council, Business, Higher Education and Private Non-profit	Eurostat; 2011; NUTS 2 regions; annual
	2. Innovate UK (Technology Strategy Board) Investment in Innovation by sector/technology and in some cases by type (collaborative)	Innovate UK (Technology Strategy Board) 2010-14; LEPs; first time data analysed by LEP
Talent	3. Residents employed as science, research, engineering and technology professionals, associate professionals	Annual Population Survey; 2013-14; LEP; Quarterly
	4. % of working age with NVQ 4+/3/2/1/ Other qualifications/ No qualifications	Annual Population Survey 2013-14; LEP; Quarterly
Knowledge assets	5. Intellectual Property protection: patents – by patentee, institution, sector and technology	USPTO and Espacenet; tested up to 31 Oct 2014 to be extended; coverage of US, EU and international patents filed in US or EU territories; inventors addressed to UK postcode level then rolled up to LEP areas
	6. Output and quality of scientific research: publications and h-index impact measure - by author(s), institution(s), sector and technology	Scopus, institutional repositories and PubMed; 1 Jan 2013 to 31 Oct 2014; UK wide coverage.
	7. Knowledge exchange/ collaboration - interactions between Higher Education Institutions and business and the wider community: contract and collaborative research, consultancy, continuing professional development and intellectual property	Hefce Higher Education Business and Community Interaction Survey (HE-BCI) data; 2012/13; institutions mapped to LEPs; update for 2013/14 (February/March 2015)
Structures and incentives	8. Industrial structure and cluster development: Industrial Strategy Sectors - employment in, and locational quotients	Business Register and Employment Survey; 2013; LEPs; annual
	9. Industrial structure and cluster development: Key sectors (Oxford Economics definitions): Aerospace and other transport equipment; Communications; Computing & advanced electronics; IT services; Medical devices; Other technical consultancy services; Pharmaceuticals and biotechnology; Software and digital content - employment in, and locational quotients	Business Register and Employment Survey; 2013; LEPs; annual

	10. Collaboration - LEP structures and networks	LEP telephone/ e-survey; LEP internet and document search; current
Broader environment	11. Employment rates	Annual Population Survey; 2013-4; LEPs; quarterly
	12. Quality of place/ life	Halifax Quality of Life Survey (Lloyds Banking Group); 2014; local authority aggregated to LEP; annual
	13. Transport accessibility - average vehicle speeds (flow-weighted) during peak periods	DfT; 2011-12; Government Office Regions; annual
Innovation outputs	14. Productivity: GVA per hour worked; & GVA per capita	ONS; 2011; NUTS 3; annual Athey Consulting (2014)
	15. UK Community Innovation Survey: • No & % businesses innovative • % turnover generated by innovative goods and services • Scale of innovation expenditure • No & % innovative enterprises exporting • No & % of enterprises with co-operation agreements and % collaborating with universities, research and development establishments and Government research units • No & % employees in innovative enterprises with degree or higher qualifications	UK Community Innovation Survey – Enterprise Research Centre's analysis; 2012; LEP; 2-yearly survey

LEPs' views on the proposed framework and indicators

6. We solicited the views of all 39 LEPs on our proposed framework and supporting headline indicators. We asked them to outline their approach to innovation and related institutional arrangements and sought responses to five questions:

1. Do you think that the proposed framework captures the main innovation elements?

2. Do you agree with our proposed set of headline indicators?

3. Are there others indicators of innovation strengths in your LEP area which you would like to see included?

4. Which indicators has your LEP used to gauge its innovation strengths?

5. Have you any suggestions as to how we might construct more qualitative measures (e.g. make-up of membership of key innovation groupings and networks to gauge strength of collaboration)?

7. 26 LEPs (two thirds of the total) responded to the consultation of whom 5 submitted written representations. We interviewed senior staff from over half of all LEPs (21),

most of whom were Chief Executives, head economists or innovation leads. As part of the consultation we presented the research to officers in Liverpool LEP and the London Enterprise Panel.

General reactions

8. The majority of respondents welcomed the research into producing a framework of LEP's comparative innovation strengths. Most felt that a standard framework and set of indicators are needed to provide a consistent way of identifying LEPs' comparative strengths since current information is partial and uneven. They also thought the data would enable LEPs to identify better potential synergies between their own innovation strengths and specialisms and those of other LEPs. LEPs continue to commission innovation strategies in order to inform allocation of European Structural Funding and some LEPs thought that the research would provide useful context for such work. A couple of LEPs indicated there was scope to use the indicators when gauging the added value of LEP and partners' interventions in the innovation sphere and to dovetail benchmarking data with their monitoring and evaluation systems.

9. All supported moves to improve the evidence base, some felt that good comparative data could promote sharing of good practice and encourage and sustain collaboration between LEPs and with HEIs across LEP boundaries. A number of collaborations across LEP areas were cited in the consultation, including:

- Heart of the South West, Gloucestershire and West of England LEPs on nuclear energy (including Heart of the South West consulting Bristol University in the West of England);
- Collaboration across an emerging 'South West 4' group of universities (Cardiff, Bristol, Bath and Exeter) mirroring the N8 in northern England;
- The Set-Squared Partnership of the Universities of Southampton (Solent LEP area); Surrey (Enterprise M3 LEP area), Exeter (Heart of South West LEP area), Bristol and Bath (West of England LEP area);
- Solent LEP and Enterprise M3 on aerospace;
- Cornwall and Isles of Scilly and West of England (UWE) on aerospace;
- Cornwall and Isles of Scilly and Heart of South West on agri-tech;
- Cornwall and Isles of Scilly University of Plymouth managing three innovation Centres;
- Cornwall and Isles of Scilly and Cumbria on energy;
- Greater Thames Valley 6 (Buckinghamshire and Thames Valley, Coast to Capital, Enterprise M3, Hertfordshire, Oxfordshire and Thames Valley Berkshire LEP areas);
- Thames Valley Berkshire and University of Surrey (Enterprise M3 LEP area).

10. A number thought it was important for LEPs to take ownership of the framework and to engage in a dialogue with BIS about its development and to make the bridge between national and local innovation strategies. One noted, for example, the importance of linking national infrastructure and housing strategies to LEP-level

innovation strategies. Another pointed to the need for collaboration between government departments over innovation with, for example, DCLG responsible for Enterprise Zone policy but BIS needing to have an influence on the activities being located in them.

11. Some LEPs were worried that they would not rate highly on many of the usual innovation metrics if the data was used to rank LEPs. Many counselled against drawing simplistic comparisons between LEPs given their contrasting contexts, economic and sectoral make-up, spatial extent and the complexity of innovation and difficulties in measuring it. A number also pointed to differences in levels of resourcing across LEPs that inevitably affect the ability of individual LEPs to develop innovation strategies.

The Framework

12. There was unanimous support for the development of a framework for gauging local innovation strengths in LEPs as this has not been attempted before. All respondents felt that the framework captured the main innovation elements. Reinforcing the literature review findings, a few respondents stressed that measuring innovation is a very complex and difficult task. Some thought that the crucial factor was how the elements are combined and that they should be viewed jointly rather than separately in silos given the systemic nature of innovation. Elements might reinforce one another or alternatively strengths in some elements might to some extent compensate for weaknesses in others. A few were concerned that the exercise would inevitably focus on innovation within LEPs and therefore not take account of innovation practice and supply chains which cross LEP boundaries. This was compounded by the fact that the boundaries of LEPs rarely coincide with functional economic areas which means for example that commuting of talented people across LEP boundaries will affect the scores of the LEPs concerned. Others pointed out that aggregate LEP data might conceal major internal variations and that problematic areas in innovation terms might partly obscure more successful areas and sectors and vice versa.

The Indicators

13. We now discuss LEP respondents' major shared concerns about the choice or specification of indicator and concentrate on additional indicators suggested by a number of LEPs. We have only cited additional indicators which are publicly available at LEP level, a stipulation for their inclusion in the framework.

General comments on the indicators

14. Some thought that the selected metrics were too oriented to science and technology and the activities and output of Higher Educational Institutions which would favour LEPs with concentrations of such activity and risked overlooking innovation in other sectors such as professional services, construction and transport and therefore LEPs possessing strengths in those sectors. A couple of respondents also pointed to the importance of specialist Arts Universities and Colleges for promoting innovation in, for example the creative and media sectors. Also, traditional 'low technology' sectors may have revived their fortunes by innovating.

15. Other interviewees thought that indicators should be standardised by per head of population or per economically active or some other suitable denominator rather than just quantums in order to compare like with like.

16. LEP respondents also pointed out that some measures need to be interpreted carefully. For example, congestion could indicate that innovation hubs are thriving and successful, albeit facing constraints in future development.

17. A handful of respondents queried whether the datasets would be weighted as they felt that some were more important than others. This might also address concerns of some respondents who felt that the mix of measures might favour certain types of innovation such as product rather than process innovation and certain sectors more than others.

18. Data limitations need to be born in mind. For example, annual population survey statistics are quite unreliable for rural areas because confidence levels are low due to the small population.

Talent:

19. Lower level as well as high level NVQs are important in some LEPs – for example there is a shortage of laboratory technicians in Greater Cambridge Greater Peterborough LEP and many parts of London.

Knowledge Assets:

20. A number of respondents felt that the relationship between knowledge assets is important. One highlighted that critical mass of related knowledge assets was a strength. Another LEP drew attention to whether they complement one another by for example being positioned at different stages of the innovation journey and spectrum. Yet another thought that knowledge assets which cut across sectors need to highlighted as they have the potential to drive innovation in a number of areas of the economy. Another respondent supported this view and said that their LEP is trying to bring together a set of innovation hubs that do not interact very much.

21. Reservations were expressed about patents as a measure. A number felt that research partners and locations were not recognised because patents are registered at firm's head offices. Perversely, some small firms are reluctant to patent because they fear they will as a result become a target for those firms wishing to copy their technology.

Structures and incentives:

22. A few LEPs queried whether indicators in particular elements sat well together. For example, some felt that the 'structures and incentives' element combined very different metrics (pre-existing industrial structures and current networking activities) which could therefore be misleading. Related to this, a significant number of LEPs pointed out that the selected industrial categories are high level which could mean that important sub-sector specialisms in LEPs are overlooked. There was also some concern that reliance on SIC-classifications of sectors made it difficult to identify

emerging technologies and sectors. Others thought that the sectoral focus was unduly narrow and did not reflect the breadth of the 8 great technologies such as energy, marine and chemicals sectors. They therefore advocated more comprehensive and disaggregated sectoral data and argued that the Framework needed to capture pockets of expertise in some way.

Suggested additional measures:

23. Respondents between them recommended that we consider collecting the following additional measures:

- Venture capital spending – many of the money measures relate to the early stages of innovation and this measure would provide some indication about how many bright ideas are being converted into viable new businesses.
- Take up of research and development tax credits.
- Number of Knowledge Transfer Partnerships - to gauge the strength of interaction between universities and local/regional firms.
- Graduate retention - this metric is indicative of both the incidence of, and potential demand for, innovation.
- Volume of incubation space, space suitable for innovative companies – a key aspect of the physical environment for innovative start- ups and also a potential lure to inward investment.
- Business start-ups and deaths - to give an idea of economic buoyancy, extent of competition and likely demand for innovation.
- Ranking of universities in the 2014 Research Excellence Framework – to provide an up to date assessment of research quality (although one respondent expressed concerns about the degree to which the REF captures the multi-disciplinary research that some innovation requires or genuine impact in terms of HE-business collaboration on innovation).
- Foreign Direct Investment: given evidence on links between this and innovative activity (although one respondent argued that this needed to be sensitive to local context with some areas - for example, those lacking Enterprise Zones or available floorspace – being significantly constrained in hosting FDI).
- Broadband infrastructure: in particular, availability, speed and take-up of superfast broadband.
- Re-instatement of the UK R&D scorecard supplemented with local-regional information to aid comparisons.

Qualitative measures:

24. There was a broad consensus that the framework should include softer qualitative measures to capture the nature and effectiveness of innovation systems within LEPs and extent of collaboration and networking. Suggested measures included:

- the degree to which innovation is prioritised in key strategy documents;
- the existence of a dedicated innovation group within LEP;
- the number of companies engaged by Catapult Centres and other innovation hubs;
- mapping key innovation groupings and organisations together with size of membership within the LEP;

- active participation in national initiatives and groupings (e.g. innovative sector trade bodies);
- SME attendance at innovation-related network events;
- extent of cross-membership of key groups and liaison between innovation hubs to reveal the extent of networking;
- the effectiveness of business hubs in innovation terms needs to be captured in future;
- trends in the above could provide an indication of their popularity and effectiveness.

25. However, one LEP respondent did add the rider that "just because research and innovation bodies have the toy set does not necessarily mean that they are good at playing with it". There therefore needs to be some measure of the effectiveness of networking and collaboration.

26. It is finally worth noting that other important issues were raised for which there are at present no comprehensive, well developed or readily available measures available. One respondent highlighted the rapidly growing impact of the social media phenomenon on the innovation process (e.g. user communication with innovators; crowd funding) and felt that this should be better understood and captured. A few thought that the framework and indicators should present a more dynamic picture of the innovation landscape by portraying the incidence of innovation clubs, competition and prizes and company appetite for as well as success in winning innovation funding. Others saw quality of leadership as critically important.

Modifications to the framework

27. As the vast majority of respondents were content with the framework, we saw no reason not to retain it in its proposed form. We also retained our proposed indicators since there was also broad support for them and no suggestion that any should be dropped. The issues LEPs raised were more to do with how much significance to attach to each indicator, the caveats to bear in mind in using them, how to interpret the data and whether supplementary indicators were needed to present a more complete picture of innovation in the different LEPs.

28. In deciding how to respond to the consultation exercise, we sought to balance the requirement to produce a limited set of headline indicators which are widely available, interpretable and easy for LEPs to replicate with the need to take into account the range of views expressed by 26 different LEPs. We view this research as very much as a first attempt at a very complex exercise given tight time and resource constraints. We fully recognise that the evidence we produce is unlikely to satisfy all stakeholders but hope that it will provide a point of reference and starting point for LEPs to add their own supplementary information in order to provide a fuller picture of their respective strengths.

29. We sought to take on board LEP advice and suggestions about additional indicators provided these are readily obtainable at LEP level. We supplemented our 15 headline indicators with the following indicators:

- Money: venture capital funding (by region);

- Money: take up of research and development tax credits (by region);
- Talent: graduate retention (by region);
- Broader environment: broadband availability, speed and take up;
- Broader environment: business start -ups and deaths.

30. In the light of the consultation exercise, we changed our proposed transport accessibility indicator from average vehicle speeds to average travel to work times as the latter is a more rounded measure and is available on a LEP rather than regional basis. We also added an average (mean) earnings indicator as it provides a reasonable proxy for consumer demand for innovation and is also an output indicator in terms of productivity and economic strength.

31. For structures and incentives we also replaced our initial definition of 'science and technology' sectors with one recently developed by ONS. Unlike other 'Science and Technology sector' classifications, which tend to prioritise science and hi-tech-based manufacturing activities, it also usefully includes 'science and technology-based' services.

32. In recognition of the possibility that some indicators may be especially important, we ran a principal components analysis of the main variables to detect which account for most of the variance. We also did this to show whether it might be desirable to weight and combine them to produce summative measures of comparative innovation strengths.

33. We also complemented quantitative with qualitative data about LEPs' approach to innovation, intelligence about the degree to which they have prioritised innovation, their assessment of their comparative strengths contained within their strategy documents and soft mapping of their main knowledge assets including those of national significance.

Rationale for selection of additional indicators

Money: Venture capital funding

34. We decided to include venture capital funding for two main reasons. It complements other money indicators because it gives a rough indication of which innovators and their business concepts are perceived as having commercial potential. Secondly, access to capital is regularly cited as one of the main obstacles to innovation in the Community Innovation Survey.

35. The best source of data is the British Private Equity and Venture Capital Association (BVCA) Report on Investment Activity which is compiled annually. It should be emphasised however that the BVCA figures are regional averages and will hide sub-regional differences. We know anecdotally, for example, that one of the strengths of the Greater Cambridge and Greater Peterborough innovation system is the access to venture capital provided by the so-called 'Cambridge Angels'. This level of investment will be hidden in the regional average.

Money: Take up of research and development tax credits

36. The Government's Research and Development Tax Credit scheme enables both SMEs and large companies to claim tax relief on eligible research and development activities (which are broadly defined as constituting some kind of technological advance).

37. HMRC collect data on claims for R&D tax credits but it does have some limitations. Claims can be made up to 2 years after the end of an accounting period which may lead to subsequent data revision, a small number of large company claims are not included because of their non-standard format and claims are based on registered office location which may not be where the actual R&D activity is carried out. Not all expenditure on R&D in the UK is used to claim the tax credit, so these statistics do not give a comprehensive account of all R&D activity in the UK. Also the data is not disaggregated below regional level.

Talent: Number of undergraduates/postgraduates/research-based doctorates

38. We decided to incorporate HESA data on undergraduates and postgraduate students to highlight the talent-pool of those who are training in higher level qualifications (a proxy for highly qualified human capital).

Talent: Graduate retention

39. We also incorporated graduate retention as an indicator because the degree to which companies employ graduates is an important driver of innovation demand. This indicator also points to the desirability of an area and the local economy's ability to retain this talent which is a rough proxy for the level of, and demand for, innovation in local firms.

40. These data have two main downsides. They are only available on a regional basis which obscures intra-regional flows of graduates which may be very significant if a region contains a number of major towns and cities. Secondly, graduate destinations are recorded 6 months following graduation which provides only a snapshot and partial picture of graduate mobility.

Broader environment: Average (mean) earnings

41. Average earnings provide a reasonably good proxy for consumer demand for innovation and it is also an output indicator as it relates closely to productivity and economic strength.

42. Statisticians advise that median earnings is the best metric to adopt because the distribution of earnings is highly skewed. However, we have had to opt for average earnings because of the need to aggregate local authority-level data on earnings to LEP area level.

Broader environment: Broadband availability, speed and take up

43. We agreed with those LEPs in more rural areas who argue that broadband access and speed have a potentially significant bearing on the ability of their firms to innovate either through absorption or opening up markets for new products and processes. OFCOM collect comprehensive data on broadband availability, speed and take up.

Business start-ups, deaths and net change

44. We opted to include business openings and closures data as they provide a good proxy for entrepreneurialism, evidence of innovation and processes of creative destruction.

45. ONS uses the Inter-Departmental Business Register to measure births, deaths and net change. To feature in the IDBR database enterprises must be VAT registered, operating a Pay as You Earn (PAYE) scheme or incorporated businesses registered at Companies House. 2.6 million of the UK's 4.8 million private sector businesses were not registered for either VAT or PAYE in 2012. Therefore such data only provide a partial picture of entrepreneurial activity.

46. With more time and resource we believe that there would be scope to conduct further research and collect other indicators too. We discuss this further in chapter 6.

47. Our revised framework and set of indicators are shown in Table C2 and Figure C2 together with information about the source data and methodology.

Table C2: Headline indicators – the final selection

	Indicator	Source; date; spatial scale; update frequency
Money		
1a	Business enterprise R&D expenditure (BERD)	ONS; 2013; LEP; FOI request
1b	R&D expenditure: Total intra-mural (GERD), Business (BERD), Higher Education (HERD), Government (GovERD), & Private Non-profit (PNPRD)	Eurostat; 2011; NUTS 2 regions; annual
2	Innovate UK (Technology Strategy Board) Investment in innovation by type and sector/technology	Innovate UK (Technology Strategy Board) 2010-15; LEPs; first time data analysed by LEP
3	Investments by British Private Equity and Venture Capital Association Members	BVCA British Private Equity and Venture Capital report on Investment Activity 2013; 2011-13

4	R & D Tax Credits	HMRC; 2012-13; GOR; annual
Talent		
5	Residents employed as science, research, engineering & technology professionals & associate professionals	Annual Population Survey; 2013-14; LEP; Quarterly
6	% of working age with NVQ 4+ and NVQ 3; no qualifications	Annual Population Survey 2013-14; LEP; Quarterly
7	Number of undergraduates: STEM & non-STEM FT postgraduates students: % and number non-UK Number of doctorates: STEM & non-STEM	HESA; 2013-14; institutions mapped to LEPs; annual
8	Graduate retention rates	HESA 'Destination of Leavers from Higher Education' survey; 2012-13; LA & GOR; annual
Knowledge Assets		
9	Intellectual Property protection: Patents by patentee, institution, sector & technology	USPTO and Espacenet; tested up to 31 Oct 2014 to be extended; coverage of US, EU and international patents filed in US or EU territories; inventors addressed to UK postcode level then rolled up to LEP areas
10	Output and quality of scientific research: publications and h-index impact measure by author, institution, sector & technology	Scopus, institutional repositories and PubMed; 1 Jan 2013 to 31 Oct 2014; UK wide coverage.
11	Knowledge exchange/ collaboration - interactions between HE Institutions and business & the wider community: collaborative research, consultancy, and contract research income	Hefce Higher Education Business and Community Interaction Survey (HE-BCI) data; 2012/13; institutions mapped to LEPs; update for 2013/14
12	Science and technology intermediary institutions	Internet and document search
Structures & Incentives		
13	Industrial structure & cluster development: Industrial Strategy Sectors –locational quotients	Enterprise Research Centre analysis of the Business Structure Database; 2012; LEPs
14	Key sectors: ONS Science and Technology definitions: Digital Technologies; Life Sciences and Healthcare; Other Science and	Business Register and Employment Survey; 2013; LEPs; annual

	Technology Manufacture; Other Science and Technology Services; Publishing and Broadcasting – employment in / locational quotients	
15	LEP innovation approach and governance:	LEP telephone/ e-survey; LEP internet and document search; current
Broader Environment		
16	Employment rates	Annual Population Survey; 2013-4; LEPs; quarterly
17	Quality of place/ life	Halifax Quality of Life Survey (Lloyds Banking Group); 2013; local authorities aggregated to LEP; annual
18	Average travel to work times	Annual Population Survey; 2012; LAs aggregated to LEPs; 3 yearly
19	Broadband infrastructure: Superfast broadband availability Average download speeds Take-up of lines by speed	Ofcom; 2014; Local Authority and County data aggregated/ apportioned to LEPs
20	Business demography – birth rates, death rates and net rates	ONS Business Demography; 2012; Local Authorities
21	Annual Average Gross Full Time Earnings, workplace based	Annual Survey of Hours and Earnings; 2013; Local Authorities; annual
Innovation Outputs		
22a	Productivity – GVA per capita	ONS; 2013; LEP; annual
22b	GVA per hour worked	ONS; 2012; NUTS 3; annual
23	UK Community Innovation Survey: % of firms engaged in Product or Process Innovation	UK Community Innovation Survey – Enterprise Research Centre analysis of the UK Innovation Survey 7; 2008-10; LEPs; 2-yearly survey

Indicators – Notes and Methodology

	Indicator	Source; date; spatial scale; update frequency	Notes and Methodology
Money			
1a	Business enterprise R&D expenditure (BERD)	ONS; 2013; LEP; FOI request	BERD data were taken from the annual ONS survey. In the 2013 survey approximately 5,400 questionnaires were sent to businesses known to

			perform R&D, including around 400 of the largest R&D spenders, which accounted for approximately 77% of the 2013 total R&D expenditure estimate. Smaller R&D performers and others believed to be performing R&D were selected using various sampling fractions. The survey was stratified by Industry product group and business employment size. Completed questionnaires were returned by 5,112 businesses - a response rate of 95%. The following process is used to produce regional estimates of R&D. The businesses receiving the long questionnaire (the 400 largest R&D spenders) accounted for approximately 77% of total R&D expenditure in 2013. Each business is asked to provide workplace postcodes for all sites at which the business performed R&D, and to allocate the total expenditure figures of the business to the sites on a percentage basis. Regional data for the remaining businesses, which accounted for the remaining 23% of total expenditure, all had a value estimated by grossing up using county region codes from the business register of R&D performers. Aggregation is undertaken at broad product group and county level. (Source: *ONS Statistical Bulletin, Business Enterprise Research and Development 2013*) Data are normally provided only at regional level, but following an FOI request, these data were made available at LEP area level. We calculated 'BERD per FTE employment' figures from these data using employment FTE figures from the business register and employment survey (BRES) as the denominator. BRES is the official source of employee and employment estimates by detailed geography and industry. It is also used to update the Inter-Departmental Business Register (IDBR), the main sampling frame for business surveys conducted by the Office for National Statistics (ONS), with information on the structure of businesses in the UK. It collects employment information from businesses across the whole of the UK economy for each site they operate from. This allows the ONS to produce employee and employment estimates by detailed geography and industry split by full-time/part-time workers and whether the business is public/private.

			The survey sample of approximately 80,000 businesses is weighted up to represent the GB economy covering all sectors. One of the strengths of BRES is that estimates are provided at detailed geographical and industrial levels (down to a lower super output geography at a five-digit Standard Industrial Classification). It enables detailed analysis of employment at low level geographies and industries. It should be noted BRES is a sample survey and produces estimated employment figures. These estimates are of a good quality at higher levels of geography (for example region). The quality of the estimates deteriorates as the geographies get smaller and this should be taken into account when considering the quality of sub-national estimates. Nevertheless, BRES outputs are regarded as the best estimates of total jobs at a detailed regional and industrial level. BRES is conducted under the Statistics of Trade Act (STA) 1947, which imposes restrictions on the way that data collected during the survey may be used. The main aim of these restrictions is to protect the identity of individual businesses that have made statistical returns from being disclosed or otherwise deduced. Some of the outputs have already been subjected to disclosure control and, therefore, the issue of confidentiality does not arise. However, employee information extracted by users of the NOMIS database has not been suppressed and contains potentially disclosive cells. (Source: *ONS, Quality and Methodology Information: Business Register and Employment Survey*)
1b	R&D expenditure: Total intra-mural (GERD), Business (BERD), Higher Education (HERD), Government (GovERD), & Private Non-profit (PNPRD)	Eurostat; 2012; NUTS 2 regions; annual	ONS provide data to Eurostat for their 'Total intra-mural (GERD) and by sector (BERD, HERD, GovERD and PNPRD)' data set. These data are at NUTS 2 level. The 2012 figures that we have used include some estimated or projected data for the HERD and PNPRD components, which introduce an element of estimation into the overall total figures. The report contains both 'total' and 'per FTE' values for GERD, BERD, HERD, GOVERD and PNPRD. NUTS 2 BRES employment FTE data have been used as the denominator for the 'per FTE figures'. (Please see above for discussion of the BRES as a source.)

2	Innovate UK (Technology Strategy Board) Investment in innovation by type and sector/technology	Innovate UK (Technology Strategy Board) 2010-15; LEPs; first time data analysed by LEP	Innovate UK grant award data (by type and sector/technology) are presented, both totals and 'per FTE', at LEP-level. The 'per FTE' figures have been calculated by dividing grant award totals by the corresponding LEP FTE employment figures. Innovate UK present the data with a Number of caveats: • Not all Small Business Research Initiative (SBRI) awards are included because in some cases these are contracts placed and paid by the SBRI partner organisation, not grants from Innovate UK. • The location data shown is based on the address the company registered for the project. This may be a company's registered office or head office rather than the location of the innovation project activity itself. • Major investments such as Catapult Centres will be recorded at the location of the funding recipient but these are national programmes that are intended to benefit the UK not just the area in which they are located. Care, therefore, needs to be taken when analysing the data by location. • The distribution of grants may be distorted by the efforts and/or funding of various agencies working to deliver or increase take-up of Innovate UK products at various times. The provision of similar products by other agencies may also reduce take-up. • Much of the data is provided by clients themselves so some errors and omissions may arise beyond the control of Innovate UK. The determination of location is based on externally sourced data and so depends upon the accuracy of that data. • Some data may change over time. Companies may move, change name and their "SME status" may change through growth or acquisition. • Allocation to LEP areas: In cases where the postcode data does not yield a result, some cases have been assigned to LEP area by region or manual inspection of the address. (Source: *Innovate UK*)

3	Investments by British Private Equity and Venture Capital Association Members	BVCA British Private Equity and Venture Capital report on Investment Activity 2013; 2011-13	Data relate only to BVCA members and are based on a survey (with a very high response rate: 96%). Data are at Government Office Region (GOR) level. 'Per FTE' figures have been calculated using FTE data from the BRES.
4	R & D Tax Credits	HMRC; 2012-13; GOR; annual	Data are available at Government Office Region level. 'Per FTE' data have been calculated using BRES employment FTE data as the denominator. Allocations of R & D Tax Credits to regions will in part reflect head office location rather than the actual location of the R & D.
Talent			
5	Residents employed as science, research, engineering & technology professionals & associate professionals	Annual Population Survey; 2013-14; LEP; Quarterly	Data from the Annual Population Survey have been extracted via Nomis. The Annual Population Survey (APS) is a continuous household survey, covering the UK, with the aim of providing estimates between censuses of key social and labour market variables at a local area level. It is not a stand-alone survey, but uses data combined from two waves from the main Labour Force Survey (LFS) with data collected on a local sample boost. Apart from employment and unemployment, the topics covered in the survey include housing, ethnicity, religion, health and education. The data sets comprise 12 months of survey data and are disseminated quarterly. The achieved sample size is approximately 320,000 respondents. (Source: *ONS, Quality and Methodology Information: Annual Population Survey*)
6	% of working age with NVQ 4+ and NVQ 3; no qualifications	Annual Population Survey 2013-14; LEP; Quarterly	Data from the Annual Population Survey have been extracted via Nomis. (See above for a discussion of the Annual Population Survey)

7	Number of undergraduates – STEM and non-STEM FT postgraduates students – % and number non-UK Number of doctorates – STEM and non-STEM	HESA; 2013-14; institutions mapped to LEPs; annual	HESA data for institutions have been mapped to LEP areas. HESA's Statistical First Release (SFR) has been produced by the Higher Education Statistics Agency (HESA) in collaboration with statisticians from the UK Department for Business, Innovation and Skills (BIS), the Welsh Government (WG), the Scottish Government (SG) and the Department for Employment and Learning Northern Ireland (DEL(NI)). It has been released according to the arrangements approved by the UK Statistics Authority. It provides details of student enrolments and qualifications obtained by higher education (HE) students at HE providers (HEPs) in the United Kingdom (UK) for the academic year 2013/14. From 2012/13 the HESA constituency includes all UK publicly funded higher education institutions (HEIs) and a number of alternative providers (APs), collectively referred to as higher education providers (HEPs). The SFRs only contain information for the HEI element of this constituency and the University of Buckingham and therefore uses the term 'higher education providers (HEPs)'. The latest SFR also includes summary statistics about study at HE level in further education colleges and information from the HESA Aggregate offshore record. This record captures students studying wholly outside the UK who are either registered with the reporting HE provider or who are studying for an award of the reporting HE provider. (Source: *HESA web site*)

8	Graduate retention rates	HESA 'Destination of Leavers from Higher Education' survey; 2012-13; LA & GOR; annual	Data from HESA's 'Destination of Leavers from Higher Education' survey are for England domicile graduates in employment in the UK 6 months after graduation. Records were allocated and aggregated to LEP areas based on 'home Local Authority residence'. 'Region of employment' destination data were then calculated for each LEP. LEP retention rates were calculated in terms of retention within the same region as the LEP. Hence both stayers within a LEP and those who moved from 'home LEP' but remained within the home LEP area's region were classed as 'retained'. The only variation upon this was in a supplementary table, which classed retention for those in LEP areas in either London region or South East region as 'retained' if they had found employment in either region. Those records where destination location was 'unknown' were excluded from the rate calculation. The Destinations of Leavers from Higher Education (DLHE) survey asks leavers from higher education what they are doing six months after graduation. About three quarters of leavers complete the survey. (Source: *HESA web site*)
Knowledge Assets			
9	Intellectual Property protection: Patents by patentee, institution, sector & technology	USPTO and Espacenet; tested up to 31 Oct 2014 to be extended; coverage of US, EU and international patents filed in US or EU territories; inventors addressed to UK postcode level then rolled up to LEP areas	*Please see Appendix F for a detailed discussion of methods and issues relating to this indicator.*
10	Output and quality of scientific research: publications	Scopus, institutional repositories and PubMed; 1 Jan 2013 to	*Please see Appendix F for a detailed discussion of methods and issues relating to this indicator.*

	and h-index impact measure by author, institution, sector & technology	31 Oct 2014; UK wide coverage.	
11	Knowledge exchange/ collaboration - interactions between HE Institutions and business & the wider community: collaborative research, consultancy, and contract research income	Hefce Higher Education Business and Community Interaction Survey (HE-BCI) data; 2012/13; institutions mapped to LEPs; update for 2013/14	HE-BCI data for Higher Education Institutions (HEIs) have been matched to LEP areas. Figures for a variety of HE-BCI measures on a 'per HEI academic staff FTE' basis have been calculated by using HEI FTE 'academic contract' staff numbers from HESA.
12	Science and technology intermediary institutions	Internet and document search	-
Structures & Incentives			
13	Industrial structure & cluster development: Industrial Strategy Sectors – employment in & locational quotients	Enterprise Research Centre analysis of the Business Structure Database; 2012; LEPs	The Enterprise Research Centre has used the UK Business Structure Database (compiled by the Office for National Statistics - ONS) which records annual data on employees for the entire population of UK firms and their constituent workplaces. The BSD is compiled from a series of annual 'snapshots' of the Inter-Departmental Business Register (IDBR) taken in March each year, an administrative database which captures information from a range of sources, amongst them VAT returns and employer Pay As You Earn (PAYE) tax and social security records. The BSD was accessed using the ONS VML and the usual disclosure rules apply to avoid the identification of individual firms through direct or indirect calculation. The unit of analysis is a local unit with at least one employee. ERC used workplace-level data to avoid the allocation of firm-level data to the firm's headquarters. ERC used annual 'snapshots' from the BSD for 2008 and 2012. We use their 2012 snapshots and, specifically, their LEP level location quotients (LQs) for Industrial Strategy

			sectors. ERC was unable to calculate LQs for the Offshore Wind Industrial Sector because of disclosure rules. (Source: *'Localisation of Industrial Activity Across England's LEPs' by Anyadike-Danes, Bonner, Drews & Hart, 2013*)
14	Key sectors: ONS Science and Technology definitions: (i) Digital Technologies ; (ii) Life Sciences and Healthcare; (iii) Other Science and Technology Manufacture; (iv) Other Science and Technology Services; (v) Publishing and Broadcasting – employment in and locational quotients	Business Register and Employment Survey; 2013; LEPs; annual	For discussion of BRES, see previous.
15	LEP innovation approach and governance.	LEP telephone/ e-survey; LEP internet and document search; current	We circulated a draft framework for comment to each of the 39 LEPs. 26 LEPs (two thirds) responded to the consultation exercise. Most took part in telephone interviews and a minority provided written responses (see Appendix C for a discussion of the consultation exercise). We also compiled and reviewed the key documents produced by all the LEPs: the Strategic Economic Plans, EU SIF strategy documents, Growth Deals and, where appropriate, City Deals. We also used internet searches to map the location of key knowledge assets including universities, science parks, enterprise zones, Government Scientific Research Institutes and Catapult Centres.
Broader Environment			
16	Employment rates	Annual Population Survey; 2013-4;	For a discussion of the Annual Population Survey, please see previous.

		LEPs; quarterly	
17	Quality of place/ life	Halifax Quality of Life Survey (Lloyds Banking Group); 2013; local authorities aggregated to LEP; annual	The eighth annual Halifax Quality of Life Survey tracks where living standards are highest in the United Kingdom by ranking local performance across key indicators covering the labour market, the housing market, the environment, education, health and personal well-being. The survey examines all 405 local authority districts and is based on data at local authority district (LAD) level collected in December 2014. Data were gathered from a number of sources, including Halifax, Point Topic (Broadband data), ONS, DEFRA, the Met Office, the Department for Transport, Department of Children, Schools and Families, the Department of Energy and Climate Change, the Welsh Assembly, Northern Ireland Government and the Scottish Executive. The combined measures comprise: • Employment rate % • Gross weekly average earnings (£s) • % of adults (16+) with highest qualification gained. This includes graduate and post postgraduate degrees, NVQ level 4 and above, and professional qualifications. • Number of rooms in house • % of houses with central heating and sole use of bathroom • House prices to Earnings ratio • Households with a good level of broadband access (i.e. a download speed of at least 2Mbps): • Population density per square km • Traffic flows per square km • Burglary rate per 10,000 population • CO2 Emissions per tonne per capita • Average annual rainfall mm • Annual sunshine hours • % in good or fairly good health • Life expectancy at birth for males • Number of pupils in primary school class • % of 15yr+ olds with 5 or more GCSEs A-C grade or Scottish equivalent • Life Satisfaction (score rating out of 10) • Worthwhile (score rating out of 10) • Happiness (score rating out of 10) • Anxiety (score rating out of 10)

18	Average travel to work times	Annual Population Survey; 2012; LAs aggregated to LEPs; 3 yearly	For a discussion of the Annual Population Survey, please see previous. The 'travel to work time' question is asked in the APS every 3 years. LA level 'estimated employed resident 16+ population' data were calculated from a combination of 16+ employment rates and 16+ mid-year population estimates to weight the average travel to work times for each constituent LA within each LEP.
19	Broadband infrastructure : Superfast broadband availability Average download speeds Take-up of lines by speed	Ofcom; 2014; Local Authority and County data aggregated/ apportioned to LEPs	**Coverage** Data on coverage of fixed broadband services is collected from the three main fixed network operators, BT, KCOM and Virgin Media. Coverage is reported on a base of residential and small business premises, excluding PO boxes and large organisations. Ofcom uses premises data from Ordnance Survey AddressBase (June 2014 version), LPS OSNI Pointer for Northern Ireland and National Statistics Postcode Lookup (NSPL). Where two network operators are present in the same postcode, Ofcom estimates the coverage value for each postcode based on the average of the 'best case' (where there is least overlap) and 'worst case' (where there is most overlap). **Take up, speeds and data use** Ofcom gathered data from the main fixed broadband Internet Service Providers (BT, KCOM, Sky, TalkTalk and Virgin Media) on both their retail services and the services they provide to other ISPs as a wholesale service. Its analysis of broadband speeds is based on information provided by these ISPs on the sync speed of each active line. This gives a measure the maximum possible connection speed achievable between the ISP's access network and the consumer premises. Line speed measurements are typically a few Mbit/s lower than sync speed measurement and they typically vary throughout the day depending on the level of congestion in the ISP's network. For cable networks, Ofcom used the headline speed of the broadband package for each line. Due to the nature of the network, cable network providers have greater control of the speeds they can provide to customers on a line. They typically set a sync speed higher than the headline speed

			to ensure that end users can experience the advertised speeds. Ofcom set certain speed thresholds in some of its analysis, of 2Mbit/s, 10Mbit/s and 30Mbit/s. It includes any ADSL/ADSL2+/VDSL modem sync speed below 2.2Mbit/s in its assessment of sub 2Mbit/s broadband as some data is used in protocol overheads and is therefore not available to the end user. It does not apply a margin to 10Mbit/s or 30Mbit/s because these thresholds are derived differently. It uses 10Mbit/s because its data suggest that an average sync speed of 10Mbit/s is where data use begins to appear to not be constrained by speed. It uses 30Mbit/s because this is Ofcom's threshold and the European Commission's threshold for superfast broadband. Along with information about the sync speed of each line, Ofcom also gathered information about the postcode of that line. This provides the source data for its geographic analysis. Our analysis of data use uses information on the amount of data downloaded and uploaded on each line for June 2014. It also collected data on the total data use between the hours of 6pm – midnight, to assess data use at 'peak times'. Its analysis considers all lines where the amount of data downloaded in June was greater than zero. The analysis of overall traffic mix and encrypted traffic are calculated from the individual traffic mix provided by each ISP weighted by the total data downloaded by customers of that network. (Source: *OFCOM Infrastructure Report 2014 Ofcom's second full analysis of the UK's communications infrastructure*) We aggregated and apportioned Local Authority and County data for each LEP. Values were apportioned in relation to the 'number of premises', which were estimated from a sum of households (Census 2011) and local business units (UK Business Counts).
20	Business demography – birth rates, death rates and net rates	ONS Business Demography; 2012; Local Authorities	The data are taken from an extract taken from the Inter-Departmental Business Register (IDBR) recording the position of units as at November of the reference year, and excludes central government and local authorities. The data are produced using the guidelines found in the Eurostat/OECD manual on Business Demography.

			Although the statistics in this release are derived from the IDBR, the total stock of active businesses is greater than the UK Business: Activity, Size and Location publication. This is mainly because the definition of an active business is based on activity at any point in the year, whereas UK Business: Activity, Size and Location is based on an annual snapshot at a point in time. In order to publish estimates within a year of the reference period, ONS has made an adjustment to the deaths figures in this release to allow for reactivations. Reactivations occur due to lags in the administrative sources (VAT/PAYE), which mean it is possible that a business that is continuing to trade can appear to cease on the IDBR. If an old VAT scheme is de-registered and there is a delay in the creation and/or matching of the new VAT scheme it can leave the enterprise without a live administrative source resulting in it being automatically flagged as a death. Additionally, VAT based units where turnover drops to zero are automatically made dead on IDBR, but will rebirth if turnover is then reported in a later period. These units will appear to move from the active stock into the death counts then come live again as births. In order to prevent distortion in these figures, those businesses that 'reactivate' on the register within two years of death are treated as if they have continued to trade throughout the period. Managed service companies have been excluded from this release, but are included in the statistics published by Eurostat for Business Demography. ONS excludes these companies from all outputs because they are registered at the address of a service company provider, and therefore distort the geographical location and industry of the businesses as well as business demography changes. The latest two years' estimates on births, deaths and survivals are subject to revision. Revisions are normally be made in the following year's publication. (Source: *ONS Statistical Bulletin: Business Demography, 2012*) Data were aggregated to LEP level.

21	Annual Average Gross Full Time Earnings, workplace based	Annual Survey of Hours and Earnings; 2013; Local Authorities; annual	The Annual Survey of Hours and Earnings (ASHE), conducted by ONS is the most comprehensive source of earnings information in the United Kingdom. It provides information about the levels, distribution and make-up of earnings and hours paid for employees by gender and full-time/part-time working. Estimates are available for various breakdowns including industries, occupations, geographies and age-groups within the UK. ASHE is used to produce hours and earnings statistics for a range of weekly, annual and hourly measures. ASHE is the official source of estimates for the number of jobs paid below the national minimum wage and is also used to produce estimates of the proportions of jobs within workplace pension categories. ASHE is based on a 1% sample of employee jobs taken from HM Revenue & Customs (HMRC) Pay As You Earn (PAYE) records. Information on earnings and hours is obtained from employers and treated confidentially. ASHE does not cover the self-employed nor does it cover employees not paid during the reference period. Results are published annually via the ONS website. **Sampling and data collection** The survey uses a random sample of 1% of all employee jobs from HMRC's PAYE system, taken in January of the reference year. The sample is drawn in such a way that many of the same individuals are included from year to year, thereby allowing longitudinal analysis of the data. The sample is matched against ONS's Inter-Departmental Business Register (IDBR) in order to obtain contact and address details for the employers. Information on the hours paid and earnings of employees is obtained from employers and treated confidentially. The survey has a reference date in April and asks about individuals who were employees at that time. The reference date changes each year depending on when Easter falls. A second extract is taken from the PAYE system in April in order to identify people who have either joined the labour market or changed jobs since the January sample was taken. ONS has a special arrangement with some very large employers for them to provide electronic returns extracted from their employee records in April. These employees are selected on the same basis as the regular ASHE sample. Since ASHE is a survey of employee jobs, it does not cover the self-employed or any jobs within the

			armed forces. Given the survey reference date in April, the survey does not fully cover certain types of seasonal work, for example employees taken on for only summer or winter work. Validation is carried out on returned data that is regarded as incomplete or potentially inaccurate, based on automatic comparisons with data for similar jobs or against data for the same job in previous years. In these cases, respondents may be re-contacted by ONS in order to verify the information that has been provided. **Weighting** Returned data are weighted to UK population totals from the LFS based on classes defined by occupation, region, age and sex. There are two processes involved in the weighting of responses for ASHE. The first allocates individual cases a design weight to adjust for non-response. For this purpose, responses are treated as being in one of four strata, depending on whether they were part of the original questionnaire despatch, one of the later supplementary surveys or have a special arrangement in place with ONS to return their data electronically. For the second part of the weighting, the final file of responses is post-stratified to population estimates taken from the LFS in 108 post-strata. These post-strata are defined as a cross-classification of: • occupation (9 groups) - major groups from Standard Occupational Classification 2000; • age-band (3 groups) - 16-21, 22-49, 50+; • gender (2 groups) - male and female; and • region (2 groups) - London & South East and the rest of the UK. In order to produce estimates for the number of jobs falling below the National Minimum Wage, the dataset is re-weighted to exclude employees whose earnings were affected by absence during the reference pay period. **Imputation** Since the introduction of weighting for ASHE data, the problem of item non-response (that is, where a questionnaire is returned by a respondent, but in an incomplete form) has become a significant issue when processing ASHE data. A method of imputation, 'donor imputation', has been adopted. In this process, records with similar characteristics are sought to act as 'donors' for missing variables.

			(Source: *ONS, Quality and Methodology Information: Annual Survey of Hours and Earnings, Low Pay and Annual Survey of Hour and Earnings Pension results*) Data were aggregated to LEP level by combining average FT employee salaries with LA full-time employee estimates from the BRES.
Innovation Outputs			
22a	Productivity – GVA per capita	ONS; 2013; LEP; annual	Regional Gross Value Added is the value generated by any unit engaged in the production of goods and services. It is measured at current basic prices, excluding taxes (less subsidies) on products. GVA plus taxes (less subsidies) on products is equivalent to Gross Domestic Product (GDP). Regional GVA is measured using the income approach (GVA(I)), which involves adding up the income generated by resident individuals or corporations in the production of goods and services. It is calculated gross of deductions for consumption of fixed capital, which is the amount of fixed assets used up in the process of production in any period. The GVA(I) estimates cover the UK as a whole and are broken down to Nomenclature of Units for Territorial Statistics (NUTS) regions. The primary input datasets for the compilation of regional GVA are listed below. They include administrative data and data from structural surveys. The data are acquired from both internal (ONS) and external sources. • Annual Survey of Hours and Earnings (ASHE) • Business Register and Employment Survey (BRES) • Annual Business Survey (ABS) • Agricultural Accounts from Department for Environment, Food and Rural Affairs (Defra) • Labour Force Survey (LFS) • (Defence Analytical Systems and Advice (DASA) • Department for Energy and Climate Change (DECC) • Self-Assessment income tax data from HMRC Regional GVA(I) estimates are produced at current basic prices and measured using the income approach. This involves adding up the income generated by resident individuals or corporations in the production of goods and services. It is calculated gross of deductions for

			consumption of fixed capital, which is the amount of fixed assets used up in the process of production in any given period. The main components of income based GVA are: • Compensation of Employees • Gross Operating Surplus (the sum of self-employment income, gross trading profits and surpluses, non-market capital consumption, rental income less holding gains) • Taxes (less subsidies) incurred as a result of engaging in production, independently of the quantity or value of goods and services produced (for example, business rates) The UK Regional GVA estimates are constrained to the latest published UK Blue Book totals. The Blue Book is the annual publication of United Kingdom National Accounts by ONS. Data sources used as regional indicators are collated, analysed and validated. Outliers are identified using graphical analysis and quality adjustments are assigned where necessary. Where appropriate, issues are referred back to the suppliers. The resulting validated datasets are then subject to a peer review process so that their impact can be assessed, prior to their inclusion in the compilation of GVA(I). The remaining datasets are fed directly into the output production system following analysis and validation. The production system then creates ”near final” output estimates (including published variables and components) which are submitted to peer reviewers for feedback, prior to the publication phase. Any changes resulting from this feedback are implemented via further production runs. (Source: *Quality and Methodology Information: Regional Gross Value Added (Income Approach)*) In constructing the GVA data for the LEPs, for 30 of the 39 LEP areas GVA data were created from simple additions of currently published NUTS3 regions. For details of the boundaries of the LEPs, please see the background notes section. The remaining nine LEP areas, which have boundaries that divide NUTS3 regions, have been calculated using methodology consistent with that used to implement NUTS boundary changes in estimates of regional GVA(I). In particular: • At component level (Compensation of Employees (CoE), Mixed Income, Gross Trading Profits

			and Surplus, Rental Income, Holding Gains, Non-Market Capital Consumption, and Taxes on Production), the data for incomplete NUTS3 regions have been split into NUTS4 regions (corresponding to local authority districts). This has been done using proportions of employees (from the Business Register and Employment Survey (BRES)), estimates of total gross operating surplus and mixed income (derived from the variable 'Approximate GVA less CoE' from the Annual Business Survey (ABS)); or population (from ONS mid-year population estimates). • Proportions relating to the latest non-provisional year (currently 2012) have been used to split the NUTS3 data for the whole time series. Once split into NUTS4 regions, the component level data have been summed to form LEP areas, then the components have been summed to form estimates of GVA. Please note that the estimates of GVA by LEP will not sum to England GVA as there is overlap between the LEP areas. The GVA estimates presented here are on a workplace basis (allocated to the location where the economic activity takes place). As with the National Accounts, regional, sub-regional and local GVA estimates (including LEP GVA estimates) are calculated as reliably as possible. There is no easy way to measure the reliability of the estimates but ONS carries out consistency checks on data inputs, applies methods consistently and makes use of local knowledge through consultation with key users. The estimates are partly based on sample surveys and the quality of the results therefore varies according to sample size. This means that the results for smaller regions are subject to a greater degree of uncertainty than those for larger regions. (Source: *ONS, GVA for Local Enterprise Partnerships, 1997-2013, by Richard Prothero*)

22b	GVA per hour worked	ONS; 2012; NUTS 3; annual	Key Points •The sub-regional productivity data have been compiled to be consistent with the regional productivity data published in the ONS Labour Productivity Statistical Bulletin on the 24 December 2014. •Both regional and sub-regional productivity measures are produced by ONS on a nominal basis only. In other words, there is no separation of volume and price in the final output. As such, different levels of nominal productivity across different sub-regions will be impacted by any difference in prices between these sub-regions, in addition to differences in production volumes per input. •Data accompanying this article are based on the NUTS geographical classification that came into use on 1 January 2012. The LEPs data is based on the latest boundaries as of February 2015. Please see the geography note below for more details of the boundaries used for Solent LEP and Enterprise M3 LEP. Consistency with Regional Productivity Data Regional productivity data are published by ONS in the 'Productivity Measures by Region' table, which is included in the quarterly Labour Productivity Statistical Bulletin. This regional table includes two productivity measures; GVA per filled job and GVA per hour worked. The sub-regional productivity data have been compiled to be consistent with the data in this regional table. This requires ensuring that the sub-regional measures of GVA, jobs and hours are all consistent with the regional totals. The methodology is therefore concerned with how best to apportion the regional totals to the sub-regional areas. The approach taken is as follows: **GVA** Since December 2013, regional GVA data have only been published by ONS as unsmoothed data. Previously, both smoothed (headline) GVA or unsmoothed GVA had been produced. Regional (NUTS1) productivity calculations use the unsmoothed workplace based GVA series, to be consistent with the labour input series used, which are both unsmoothed and workplace based. The aim in the sub-regional productivity calculations is to apportion out, to NUTS2 and

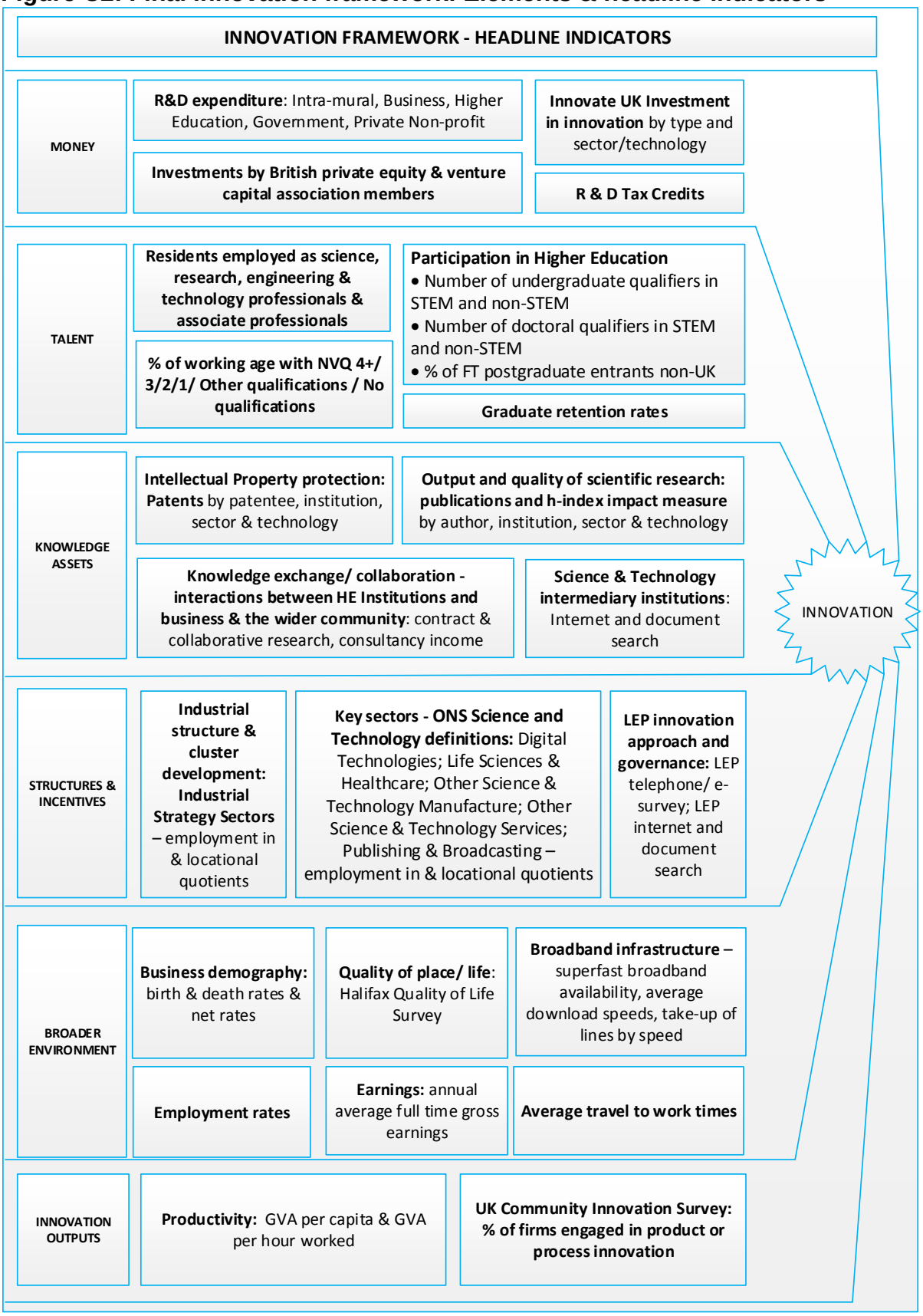
			NUTS3 sub-regions, the NUTS1 GVA series used in the regional productivity estimates, that is, the unsmoothed workplace-based GVA at current basic prices series. **Hours** At the national and regional level, GVA per hour worked data are calculated using a 'Productivity Hours' series as the denominator. These data are calculated quarterly, based mostly on the LFS, and an annual total is constructed as the average of the four quarters in the calendar year. At sub-regional level, only annual productivity data are being produced. Therefore, the Annual Population Survey (APS) is used rather than the Labour Force Survey as it has a larger sample size. The process involves calculating total hours for each sub-region as the sum of employee hours, self- employment hours, hours worked in government training schemes and hours worked by HM Forces. Employee hours are calculated by using the APS to estimate, for each sub-region, the average hours worked per employee job by industry. These industry average hours are then multiplied by the number of employee jobs for each industry in each sub-region. For the period from 2008 onwards, the number of employee jobs by industry is derived from the Business Register and Employment Survey (BRES). Prior to that, employee jobs by industry were derived from the Annual Business Inquiry (ABI). Self- employment hours are calculated from the APS. For government training schemes and HM Forces, the regional totals are allocated to sub-regions based on each sub-region's share of regional employee plus self-employment hours, as calculated in the previous stage. Adding together the sum of employee hours, self-employment hours, hours worked in government training schemes and hours worked by HM Forces provides a total hours estimate for each sub-region. Once calculated these NUTS2 and NUTS3 sub-regional data are then constrained regionally to the NUTS1 'Productivity Hours' data to ensure consistency with regional productivity data.

			Smoothing Unsmoothed time series data at small geographies such as NUTS2 and NUTS3 tend to show volatility, which is created by sampling and non-sampling errors. Therefore, a five year weighted average has been used to remove this volatility and produce a smoothed time-series. The results presented in this article are based on the smoothed sub-regional productivity data series. It should be noted that when calculating the sub-regional productivity data, unsmoothed data has been used at all times. The smoothing process has only been applied to the final results. For any users who would like to make use of the unsmoothed results, this data are included in the data section of this publication. (Source: *ONS web site – Sub-regional Productivity Methodology*) **Background notes** 1. The GVA estimates presented here are on a workplace basis (allocated to the location where the economic activity takes place). GVA estimates are presented in current basic prices. They do not allow for different regional price levels or changes in prices over time (inflation). The income approach to calculating GVA produces only current price estimates because some income components cannot easily be converted into prices and volume (e.g. gross operating surplus). As with the National Accounts, regional, sub-regional and local GVA estimates (including LEP GVA estimates) are calculated as reliably as possible. There is no easy way to measure the reliability of the estimates but ONS carries out consistency checks on data inputs, applies methods consistently and makes use of local knowledge through consultation with key users. The estimates are partly based on sample surveys and the quality of the results therefore varies according to sample size. This means that the results for smaller regions are subject to a greater degree of uncertainty than those for larger regions. 2. Geography - Table B1 in the reference table accompanying this publication shows the LEPs boundaries used to compile the data in this report. In each case, the LEP boundaries used have been an amalgamation of one or more local authority. In other words, for each local authority associated with a LEP, data covering the whole of that local authority are included within the LEP

			data. There are two cases, however, where the working boundaries of a LEP cut through existing local authority boundaries. These are Enterprise M3 and Solent LEPs where parts of the local authorities of New Forest, Test Valley and Winchester and East Hampshire are in the Enterprise M3 LEP and parts are in the Solent LEP. Providing GVA data for LEP boundaries that do not follow local authority boundaries is, however, currently not possible. For this release, therefore, data have only been provided based upon allocating full local authorities to one or more LEPs as detailed in Table B1. (Source: *ONS, GVA for Local Enterprise Partnerships,* *1997-2013, Richard Prothero*)
23	UK Community Innovation Survey: % of firms engaged in Product or Process Innovation	UK Community Innovation Survey – Enterprise Research Centre analysis of the UK Innovation Survey 7; 2008-10; LEPs; 2-yearly survey	Analysis of the UK Innovation Survey 7 covering 2008-10 was carried out by the Enterprise Research Centre. The UK Innovation Survey is conducted every two years by the Office for National Statistics on behalf of the Department of Business Innovation & Skills (BIS). The information ultimately feeds into the Community Innovation Survey (CIS). The CIS allows the monitoring of Europe's progress in the area of innovation. Business innovation is a vital ingredient in raising the productivity, competitiveness and growth potential of modern economies. Providing the right economic conditions for and using appropriate policy instruments to encourage innovation in the UK is a central objective. Measuring the level of innovation activity in the UK and identifying where policy might be best targeted contributes to the pursuit of that objective. The survey is voluntary. • Selection Criteria - Businesses from various industrial sectors and regions in the UK • Population - Approximately 187,000 • Sample - Approximately 28,500 (Source: *ONS web site, UK Innovation Survey*) Data acknowledgement:

			The statistical data used here is from the Office of National Statistics (ONS) and is Crown copyright and reproduced with the permission of the controller of HMSO and Queens Printer for Scotland. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. The analysis upon which this paper is based uses research datasets which may not exactly reproduce National Statistics aggregates.

Figure C2: Final innovation framework: Elements & headline indicators



Appendix C2: Developing the city-region and urban-rural typology

The basis for the city-region and urban-rural typology

1. To contextualise LEP areas we use a broad typology which classifies LEP areas according to their position in the urban hierarchy and degree of urbanisation. This section explains how we did this.

2. Our starting point for identifying city-region areas was the DG-Regio list of 90 UK Larger Urban Zones (LUZs), which are city-region definitions based on population densities and commuting patterns. These were used for the 'Urban Audit V' 2010-12 round of data collection and also in our research for the Economic and Social Research Council funded project, 'UK City-regions – How Competitive in a Global Economy? What Do The Secondary Data Tell Us?' (Grant Reference: ES/K00414X/1). We categorised the places into a shortlist of 1 capital, 9 second tier and 31 third tier city-regions in accordance with population cut-offs. Second tier city-regions were those non-capital city-regions with populations higher than 600,000. Third tier city-regions were those LUZs with populations of 200,000 to 600,000, see table C3.

Table C3: Capital, Second Tier, and Third Tier city-regions based on DG-Regio Larger Urban Zone definitions, population figures, 2011

Area	Population 2011	Area	Population 2011
London	12,142,000	Southampton	361,700
Birmingham	2,864,800	Preston	356,800
Manchester	2,776,400	Derby	343,900
Liverpool	1,506,500	Exeter	328,300
Leeds	1,160,700	Blackpool	325,900
Newcastle upon Tyne	1,145,100	Reading	310,300
Sheffield	908,600	Doncaster	302,500
Bristol	894,600	Blackburn with Darwen	285,500
Nottingham	870,400	Sunderland	275,300
Leicester	836,600	Cambridge	272,600
Kingston upon Hull	590,800	Medway	264,900
Coventry	542,800	Ipswich	258,300
Bradford	523,100	Plymouth	256,600
Portsmouth	520,800	Milton Keynes	249,900
Bournemouth	511,900	Barnsley	231,900
Cheshire West and Chester	482,200	Northampton	212,500
Stoke on Trent	469,800	Swindon	209,700
Middlesbrough	465,400	Luton	203,600
Brighton & Hove	431,900	Warrington	202,700
Kirklees	423,000	Lincoln	201,600
Norwich	381,400		

Source: ONS Mid-Year Population Estimates

3. Our first step of analysis was to identify the overlap, in population terms, between the LEP areas and the city-regions identified above. Table C4 shows this. The proportion of each LEP area's population falling into capital, second tier, third tier, and 'other' areas that do not fall within the three-fold city-region classification are shown. Please note that LEP areas frequently cover just parts of the city-regions mentioned in the table. For example 29% of the population for the York and North Yorkshire LEP area falls within the Kingston upon Hull city-region. However it does not cover the principal core area of 'City of Kingston upon Hull' Local Authority, but only the 'East Riding of Yorkshire' component of the Kingston upon Hull city-region.

Table C4: LEP area population - % split in relation to capital, second tier and third tier city-regions, and other areas, 2013. The overlapping city-regions are identified. Figures in brackets show % share of LEP area population in city-region in question

LEP	Capital	2nd Tier	3rd Tier	Other
Black Country		Birmingham (100)		
Total	-	**100**	-	-
Buckinghamshire Thames Valley	London (31)			
Total	**31**	-	-	**69**
Cheshire and Warrington			Cheshire West & Chester (36)	
			Warrington (23)	
Total	-	-	**59**	**41**
Coast to Capital	London (39)		Brighton & Hove (22)	
Total	**39**	-	**22**	**39**
Cornwall and the Isles of Scilly				
Total	-	-	-	**100**
Coventry and Warwickshire		Birmingham (7)	Coventry (63)	
Total	-	**7**	**63**	**30**
Cumbria				
Total	-	-	-	**100**
Derby, Derbyshire, Nottingham and Nottinghamshire		Nottingham (41)		
		Sheffield (5)		
		Manchester (4)	Derby (16)	
Total	-	**50**	**16**	**33**
Dorset			Bournemouth (69)	
Total	-	-	**69**	**31**
Enterprise M3	London (30)			
Total	**30**	-	-	**70**
Gloucestershire				
Total	-	-	-	**100**
Greater Birmingham and Solihull		Birmingham (80)		
Total	-	**80**	-	**20**
Greater Cambridge & Greater Peterborough			Cambridge (20)	
	London (6)		Peterborough (14)	
Total	**6**	-	**33**	**61**
Greater Lincolnshire			Lincoln (9)	
Total	-	-	**9**	**91**

LEP	Capital	2nd Tier	3rd Tier	Other
Greater Manchester		Manchester (100)		
Total	**-**	**100**	**-**	**-**
Heart of the South West			Exeter (20)	
			Plymouth (15)	
Total	**-**	**-**	**35**	**65**
Hertfordshire	London (68)			
Total	**68**	**-**	**-**	**32**
Humber			Kingston upon Hull (64)	
Total	**-**	**-**	**64**	**36**
Lancashire			Preston (24)	
			Blackpool (22)	
			Blackburn with Darwen (19)	
Total	**-**	**-**	**66**	**34**
Leeds City Region			Bradford (18)	
			Kirklees (14)	
		Leeds (39)	Barnsley (8)	
Total	**-**	**39**	**40**	**21**
Leicester and Leicestershire		Leicester (85)		
Total	**-**	**85**	**-**	**15**
Liverpool City Region		Liverpool (100)		
Total	**-**	**100**	**-**	**-**
London	London (100)			
Total	**100**	**-**	**-**	**-**
New Anglia			Norwich (24)	
			Ipswich (16)	
Total	**-**	**-**	**40**	**60**
North Eastern		Newcastle upon Tyne (59)	Sunderland (14)	
Total	**-**	**59**	**14**	**27**
Northamptonshire			Northampton (31)	
Total	**-**	**-**	**31**	**69**
Oxfordshire				
Total	**-**	**-**	**-**	**100**
Sheffield City Region			Doncaster (17)	
		Sheffield (50)	Barnsley (13)	
Total	**-**	**50**	**30**	**20**
Solent			Portsmouth (34)	
			Southampton (24)	
Total	**-**	**-**	**57**	**43**

LEP	Capital	2nd Tier	3rd Tier	Other
South East			Medway (7)	
	London (46)		Brighton & Hove (2)	
Total	**46**	**-**	**9**	**44**
South East Midlands			Milton Keynes (15)	
			Northampton (12)	
			Luton (12)	
Total	**-**	**-**	**39**	**61**
Stoke-on-Trent and Staffordshire		Birmingham (26)	Stoke on Trent (43)	
Total	**-**	**26**	**43**	**31**
Swindon and Wiltshire			Swindon (31)	
Total	**-**	**-**	**31**	**69**
Tees Valley			Middlesbrough (70)	
Total	**-**	**-**	**70**	**30**
Thames Valley Berkshire	London (33)		Reading (36)	
Total	**33**	**-**	**36**	**31**
The Marches	**-**	**-**	**-**	**100**
Total				
West of England		Bristol (84)		
Total	**-**	**84**	**-**	**16**
Worcestershire		Birmingham (17)		
Total	**-**	**17**	**-**	**83**
York and North Yorkshire		Leeds (7)	Kingston upon Hull (29)	
Total	**-**	**7**	**29**	**63**

Source: ONS Mid-Year Population Estimates

4. Using the data from Table C4, LEP areas were classified using the following set of rules in sequential order:

1. The London LEP was classified as the 'capital city-region' LEP area.
2. LEP areas that had at least 30% of their population falling within the capital city-region were classed as 'London city-region' LEP areas ('Lon C-R').
3. LEP areas that had at least 30% of their population falling within second-tier city-regions were classed as 'second tier city-regions' LEP areas ('2nd Tier').
4. LEP areas with at least 30% of their population falling within third-tier city-regions were classed as 'third tier city-regions' LEP areas ('3rd Tier').

5. Those LEP areas that remained after the application of rules 1 to 4 were then analysed using the DEFRA rural-urban classification. This identifies the percentage of population living in rural areas or rural-related hub towns. Areas where 50% or more of the population reside in these areas are classed as either 'mainly rural' or 'largely rural' (in our classification they are referred to together as 'rural'). Areas where 26-49% of the population reside in these areas are classed as 'urban with significant rural' ('urban-rural').

5. Table C5 below shows the classification after rules 1 to 4 are applied.

Table C5: LEP Area Classification after rules 1 to 4 - figures show % of LEP population falling into capital, second tier, and third tier city-regions, and % falling into 'other' areas that fall outside of these – population figures are for 2013

Classification	LEP area	Capital	2nd Tier	3rd Tier	Other
Capital	London	100.0			
Lon CR	Hertfordshire	68.2			31.8
Lon CR	South East	46.4		9.1	44.4
Lon CR	Coast to Capital	38.9		22.4	38.7
Lon CR	Thames Valley Berkshire	32.9		36.1	31.0
Lon CR	Buckinghamshire Thames Valley	31.2			68.8
Lon CR	Enterprise M3	30.2			69.8
2nd Tier	Black Country		100.0		
2nd Tier	Greater Manchester		100.0		
2nd Tier	Liverpool City Region		100.0		
2nd Tier	Leicester and Leicestershire		85.4		14.6
2nd Tier	West of England		83.5		16.5
2nd Tier	Greater Birmingham and Solihull		79.9		20.1
2nd Tier	North Eastern		59.3	14.2	26.5
2nd Tier	Sheffield City Region		50.4	29.6	20.1
2nd Tier	Derby, Derbyshire, Nottingham and Nottinghamshire,		50.4	16.3	33.3
2nd Tier	Leeds City Region		39.3	39.8	20.8
3rd Tier	Tees Valley			70.2	29.8
3rd Tier	Dorset			68.8	31.2
3rd Tier	Lancashire			66.1	33.9
3rd Tier	Humber			64.4	35.6
3rd Tier	Coventry and Warwickshire		7.1	63.4	29.5
3rd Tier	Cheshire and Warrington			59.0	41.0
3rd Tier	Solent			57.2	42.8
3rd Tier	Stoke-on-Trent and Staffordshire		26.1	42.7	31.2
3rd Tier	New Anglia			40.3	59.7
3rd Tier	South East Midlands			38.7	61.3
3rd Tier	Heart of the South West			35.2	64.8
3rd Tier	Greater Cambridge & Greater Peterborough	5.9		33.5	60.6
3rd Tier	Swindon and Wiltshire			30.9	69.1
3rd Tier	Northamptonshire			30.7	69.3
Not allocated	York and North Yorkshire		7.4	29.4	63.1
Not allocated	Worcestershire		16.6		83.4

Not allocated	Greater Lincolnshire			9.1	90.9
Not allocated	The Marches				100.0
Not allocated	Cornwall and the Isles of Scilly				100.0
Not allocated	Cumbria				100.0
Not allocated	Gloucestershire				100.0
Not allocated	Oxfordshire				100.0

Source: ONS Mid-Year Population Estimates

6. The identification of the percentage of population living in rural areas or rural-related hub towns (Rule 5) was then applied to the unallocated LEP areas, see table C6. DEFRA classifications are shown. In our typology we retain the 'urban with significant rural' category however we combine the DEFRA categories, 'mainly rural' and 'largely rural', into a single 'rural' group.

Table C6: % of population in rural areas or rural-related hub towns, 2011

LEP area	Rural including hub towns (rural & rural related) population	Total population	% in rural and rural-related hub towns	DEFRA classification
Worcestershire	217,144	566,169	38.4	Urban with significant rural
Gloucestershire	252,279	596,984	42.3	Urban with significant rural
Oxfordshire	360,910	653,798	55.2	Largely rural
Greater Lincolnshire	583,872	1,040,715	56.1	Largely rural
The Marches	373,737	656,247	57.0	Largely rural
York and North Yorkshire	670,356	1,130,606	59.3	Largely rural
Cumbria	375,523	499,858	75.1	Largely rural
Cornwall and the Isles of Scilly	444,232	534,476	83.1	Mainly rural

Source: DEFRA 2011 Rural-Urban Classification

7. After this final stage of analysis we then have our final LEP area typology. This is presented in Table C7 below.

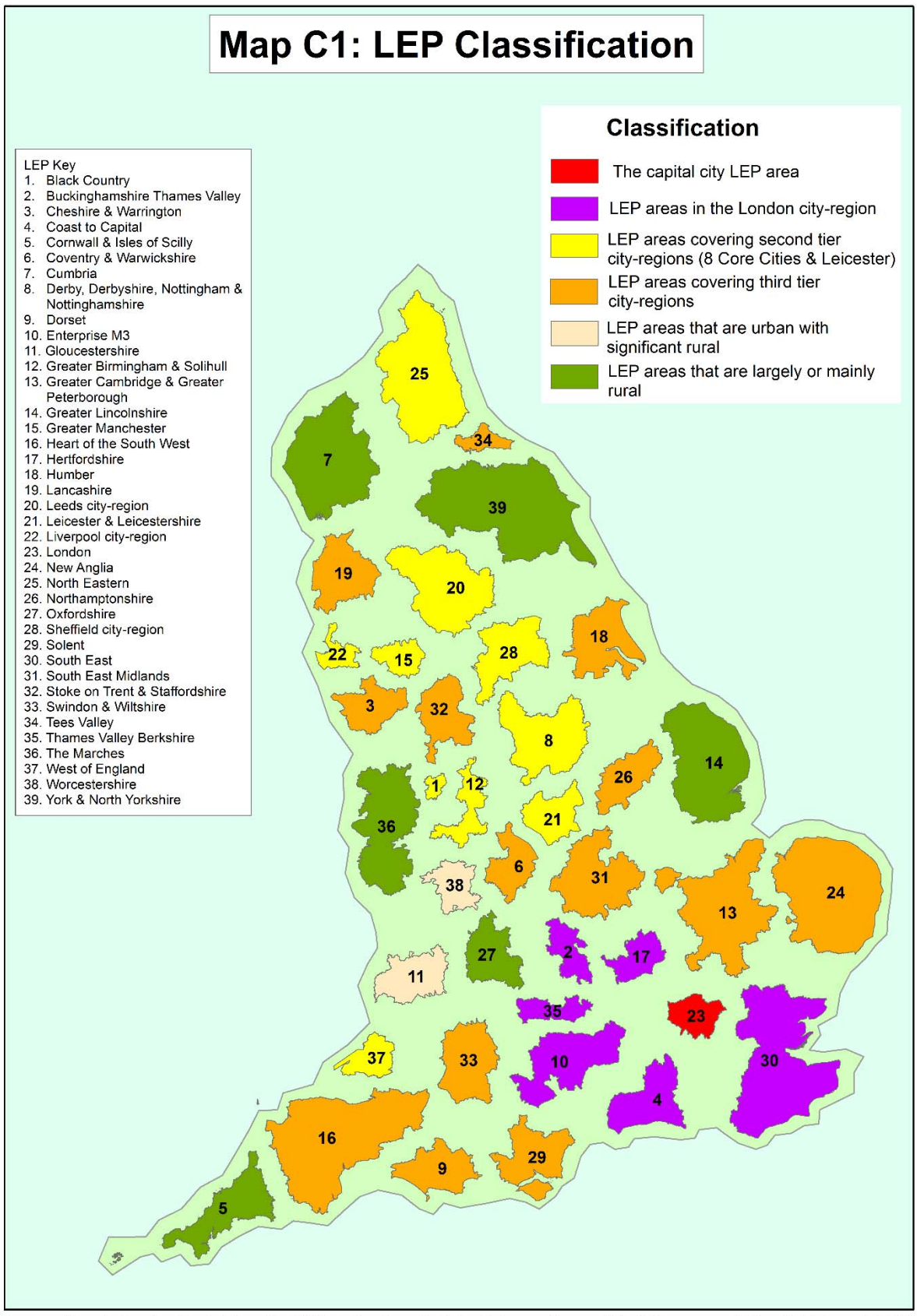
Table C7: Final LEP Area Classification

Classification	LEP area
Capital	London
Lon C-R	Hertfordshire
Lon C-R	South East
Lon C-R	Coast to Capital
Lon C-R	Thames Valley Berkshire
Lon C-R	Buckinghamshire Thames Valley
Lon C-R	Enterprise M3
2nd Tier	Black Country
2nd Tier	Greater Manchester
2nd Tier	Liverpool City Region
2nd Tier	Leicester and Leicestershire

2nd Tier	West of England
2nd Tier	Greater Birmingham and Solihull
2nd Tier	North Eastern
2nd Tier	Sheffield City Region
2nd Tier	Derby, Derbyshire, Nottingham and Nottinghamshire,
2nd Tier	Leeds City Region
3rd Tier	Tees Valley
3rd Tier	Dorset
3rd Tier	Lancashire
3rd Tier	Humber
3rd Tier	Coventry and Warwickshire
3rd Tier	Cheshire and Warrington
3rd Tier	Solent
3rd Tier	Stoke-on-Trent and Staffordshire
3rd Tier	New Anglia
3rd Tier	South East Midlands
3rd Tier	Heart of the South West
3rd Tier	Greater Cambridge & Greater Peterborough
3rd Tier	Swindon and Wiltshire
3rd Tier	Northamptonshire
Urban/rural	Worcestershire
Urban/rural	Gloucestershire
Rural	Oxfordshire
Rural	Greater Lincolnshire
Rural	The Marches
Rural	York and North Yorkshire
Rural	Cornwall and the Isles of Scilly
Rural	Cumbria

Source: ONS Mid-Year Population Estimates

8. The classification is also presented on the next page in map C1.

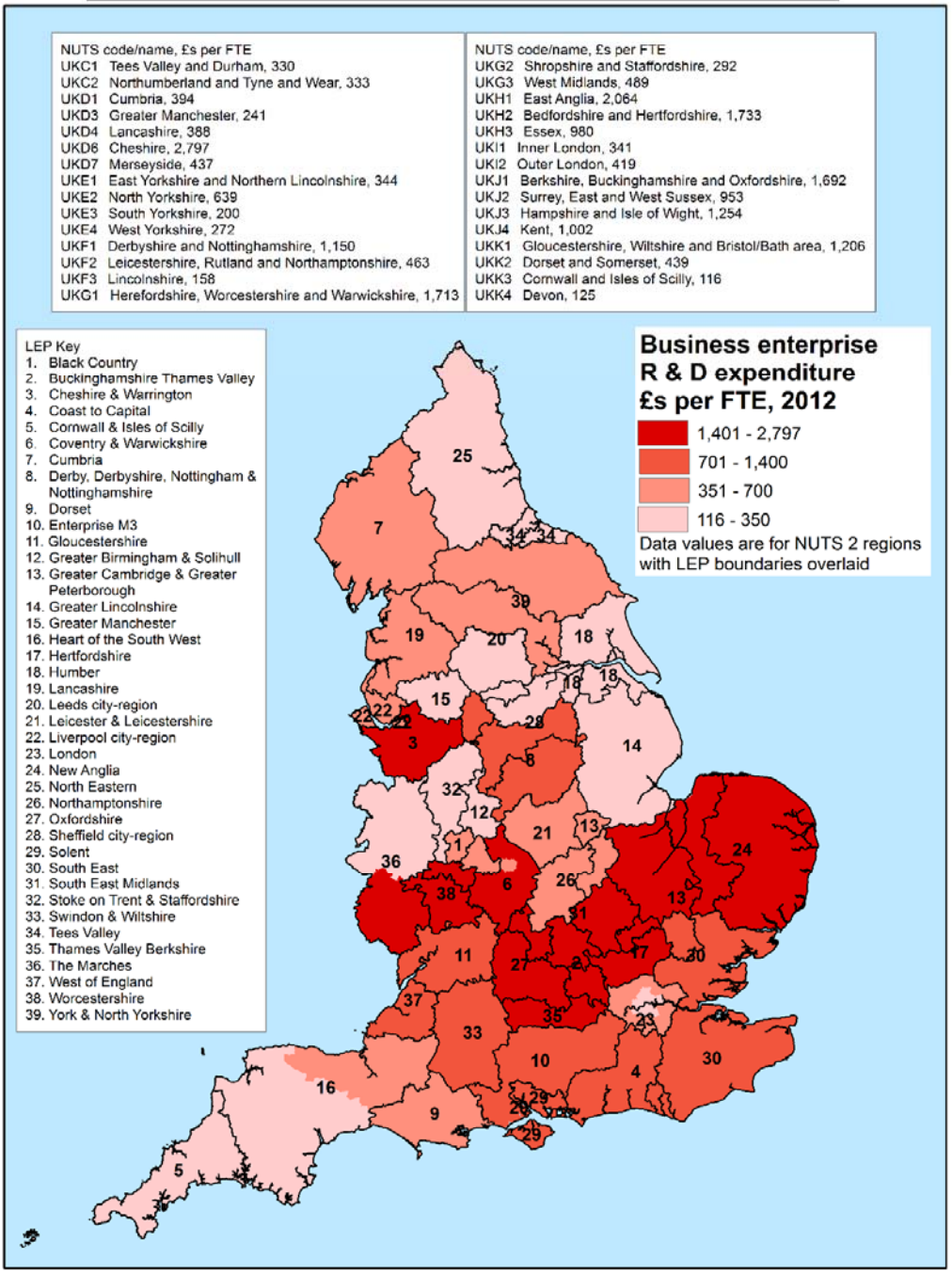


Sources: Boundaries downloaded from the UK Data Service. Contains Ordnance Survey data © Crown copyright and database right 2015.

Appendix D: Headline Indicators

D1: Business Enterprise R&D Expenditure (NUTS2), 2012

Map D1: Business Enterprise R & D Expenditure £s per FTE, 2012



Sources: Boundaries downloaded from the UK Data Service. Contains Ordnance Survey data © Crown copyright and database right 2015. Eurostat: Total intramural R&D expenditure (GERD) by sectors; & business register and employment survey; Notes: R & D expenditure data are NUTS 2 based. Map layout by EIUA.

Figure D1: NUTS 2 – Shares of England's Business Enterprise R&D Expenditure and Shares of England's FTE Employment, 2012

Source: ONS and business register and employment survey

Key to Figure D1: NUTS 2 code match to LEPs (with LEP's share of NUTS 2's FTE Employment 2012)

NUTS 2 code	LEP name	NUTS 2 code	LEP name
C1	Tees Valley (61%) North Eastern (39%)	G3	Greater Birmingham and Solihull (50%) Black Country (38%) Coventry and Warwickshire (12%)
C2	North Eastern (100%)		
D1	Cumbria (100%)	H1	New Anglia (62%) Gtr. Cambridge & Gtr. Peterborough (51%)
D3	Greater Manchester (100%)		
D4	Lancashire (100%)	H2	Hertfordshire (69%) South East Midlands (31%) Gtr. Cambridge & Gtr. Peterborough (6%)
D6	Cheshire and Warrington (100%)		
D7	Liverpool City Region (100%)		
E1	Humber (100%) Greater Lincolnshire (37%) York, North Yorkshire & East Riding (31%)	H3	South East (100%) Gtr. Cambridge & Gtr. Peterborough (6%)
		I1	London (100%)
E2	York, North Yorkshire & East Riding (100%) Leeds City Region (67%)	I2	London (100%) Coast to Capital (6%)
E3	Sheffield City Region (100%) Leeds City Region (14%)	J1	Thames Valley Berkshire (41%) Oxfordshire (28%) South East Midlands (25%) Buckinghamshire Thames Valley (18%)
E4	Leeds City Region (100%)		
F1	Derby, Derbyshire, Nottingham & Nottinghamshire (100%) Sheffield City Region (21%)	J2	Coast to Capital (57%) Enterprise M3 (32%) South East (14%)
F2	Leicester and Leicestershire (56%) Northamptonshire (42%) South East Midlands (34%) Gtr. Cambridge & Gtr. Peterborough (2%)	J3	Solent (80%) Enterprise M3 (48%)
		J4	South East (100%)
F3	Greater Lincolnshire (100%)	K1	West of England (48%) Swindon and Wiltshire (27%) Gloucestershire (25%)
G1	Coventry and Warwickshire (47%) Worcestershire (40%) Greater Birmingham and Solihull (18%) The Marches (13%)	K2	Dorset (59%) Heart of the South West (41%)
G2	Stoke-on-Trent and Staffordshire (69%) The Marches (31%) Greater Birmingham and Solihull (25%)	K3	Cornwall and Isles of Scilly (100%)
		K4	Heart of the South West (100%)

Note: % shares of each NUTS 2's FTE employment can exceed 100% due to overlapping LEP boundaries; see map D1 for NUTS 2 names in full.

D2: Innovate UK R&D Expenditure £s per FTE, 2011

Innovate UK – LEPs Ranks (where 1 is highest) by 'Area Budget's Total Grants in £s per FTE', 2010-15; traffic light shading splits LEPs receiving grants into 3 groups: LEPs in top, middle & bottom thirds; those with no grants are not ranked. Order of columns reflects rank size of area budgets.

Budget Area / LEP	Catapult	Large	Healthcare	Responsive	Transport	High Value Manufacturing	TSB Programmes	Energy	Digital	Sustainable Agri-Food (SAF)	Low Impact Buildings	Electronics, Photonics &	Information & Communication	BIS Financed	Bioscience	Advanced Materials	Space Programmes	Sustainability	Nanotechnology	Development	Buildings	Null	Total	Total excluding Catapult
Oxfordshire	5	4	1	1	2	10	12	17	11	9	3	5	3	5	4	3	3	1	1	2	-	-	3	1
West of England	4	2	25	15	9	1	1	2	5	28	1	8	1	1	27	8	7	30	18	9	5	-	4	2
Coventry and Warwickshire	3	1	19	14	1	3	2	11	15	6	5	31	16	-	7	1	-	5	15	5	3	-	2	3
Greater Cambridge & Greater Peterborough	-	12	2	2	8	7	29	3	4	3	2	1	7	-	3	15	15	2	4	1	-	-	6	4
Enterprise M3	11	17	4	11	4	12	19	7	1	11	25	16	5	-	10	11	1	14	6	13	2	-	9	5
Gloucestershire	-	8	21	18	6	2	31	9	10	12	9	30	19	3	35	2	12	7	-	10	-	-	10	6
Solent	-	5	9	9	13	9	9	16	3	21	32	10	8	4	19	25	10	35	25	6	7	-	12	7
Leicester and Leicestershire	9	15	20	4	3	6	5	13	16	7	11	14	9	-	30	6	16	8	10	15	-	-	13	8
London	8	6	5	17	29	5	24	24	2	32	7	18	2	8	25	24	18	15	7	18	8	1	11	9
Sheffield City Region	6	10	11	3	10	16	3	4	21	18	26	9	14	-	34	4	26	9	16	-	-	-	7	10
South East Midlands	7	20	22	6	5	13	23	23	19	22	8	7	23	2	22	16	11	10	3	12	-	-	8	11
Heart of the South West	-	3	28	26	14	27	20	8	17	31	14	23	28	-	13	26	13	17	22	-	-	-	14	12
Liverpool City Region	-	21	3	5	25	17	11	21	7	36	30	27	15	9	5	13	29	3	13	-	6	-	15	13
Derby, Derbyshire, Nottingham & Nottinghamshire	12	11	17	7	11	21	15	19	25	19	-	20	18	-	15	9	9	26	11	19	4	-	16	14
North Eastern	2	19	10	8	12	19	4	15	26	20	23	12	20	-	16	27	8	16	9	7	11	-	5	15
Swindon and Wiltshire	-	-	6	34	30	4	-	5	18	13	19	13	12	7	28	30	17	22	-	-	-	-	17	16
Thames Valley Berkshire	10	26	8	16	27	31	8	12	6	26	6	11	10	-	20	5	6	24	-	17	-	-	18	17
Hertfordshire	-	22	12	12	21	20	-	33	28	35	10	15	27	-	1	31	2	34	27	-	-	-	19	18
Buckinghamshire Thames Valley	-	-	7	13	7	15	32	32	12	23	-	6	-	-	31	7	5	11	-	-	-	-	20	19
Greater Birmingham and Solihull	-	9	26	28	17	24	16	31	27	8	12	24	26	-	24	12	-	18	8	-	12	-	21	20
Tees Valley	1	-	14	38	22	14	21	34	30	14	-	2	-	-	2	22	-	4	20	-	-	-	1	21

Budget area / LEP	Catapult	Large	Healthcare	Responsive	Transport	High Value Manufacturing	TSB Programmes	Energy	Digital	Sustainable Agri-Food (SAF)	Low Impact Buildings	Electronics, Photonics &	Information & Communication	BIS Financed	Bioscience	Advanced Materials	Space Programmes	Sustainability	Nanotechnology	Development	Buildings	Null	Total	Total excluding Catapult
Worcestershire	-	7	36	21	19	34	-	35	14	34	13	25	-	-	8	21	21	32	2	-	-	-	22	22
York and North Yorkshire	-	-	16	30	33	30	13	14	20	1	21	26	6	-	6	32	-	21	5	4	-	-	23	23
Coast to Capital	-	25	18	31	16	36	22	10	8	29	16	29	4	-	17	29	23	33	14	14	1	-	24	24
Leeds City Region	-	23	15	24	32	25	10	27	22	25	18	4	17	-	26	20	28	19	12	11	9	-	25	25
Dorset	-	24	34	25	18	8	6	20	38	38	27	32	11	-	-	14	4	-	-	-	-	-	26	26
Greater Manchester	-	-	23	19	36	11	7	28	24	27	20	19	22	-	11	23	24	12	19	-	-	-	27	27
South East	-	16	13	33	15	28	30	25	29	10	24	28	21	-	21	34	22	37	17	-	10	-	28	28
Cornwall and the Isles of Scilly	-	-	-	22	31	26	33	1	33	37	22	-	-	-	-	-	14	36	-	-	-	-	29	29
Cheshire and Warrington	-	-	27	10	20	18	-	6	37	30	29	34	34	-	23	17	-	6	21	-	-	-	30	30
Stoke-on-Trent and Staffordshire	-	14	35	20	28	29	27	30	23	24	34	22	29	-	32	18	-	28	23	3	-	-	31	31
The Marches	-	13	-	36	24	35	34	39	32	4	31	-	25	-	18	-	-	13	24	-	-	-	32	32
New Anglia	-	18	31	23	23	38	35	22	34	15	15	17	24	-	14	36	27	38	26	-	-	-	33	33
Greater Lincolnshire	-	-	-	32	35	23	25	29	36	2	28	21	13	-	9	28	19	29	-	-	-	-	34	34
Lancashire	-	-	33	27	26	33	14	37	9	39	35	35	30	-	33	10	-	20	-	-	-	-	35	35
Northamptonshire	-	-	30	29	37	-	26	26	13	33	33	3	31	-	29	37	-	25	-	16	-	-	36	36
Humber	-	-	24	37	38	32	17	18	-	5	-	-	33	-	12	35	-	23	-	8	-	-	37	37
Black Country	-	-	32	39	34	22	18	38	31	16	17	-	-	6	36	33	20	27	-	-	-	-	38	38
Cumbria	-	-	29	35	-	37	28	36	35	17	4	33	32	-	37	19	25	31	-	-	-	-	39	39

Source: Innovate UK; Notes: These data include all grants awarded since 1 April 2010 as well as some active programmes that have become Innovate UK's responsibility since that time. The location data shown will be based on the address the company registered for the project. This may be a company's registered office or head office rather than the location of the innovation project activity itself.

D3: Knowledge Assets - publications and patents

Publications

Output and quality of scientific research: publications and h-index impact measure - Methodology

Publications

This metric involved the mapping of research expertise using journal article publications. We have used the last two years of publication data which is available from institutional repositories Pubmed and Scopus to assess the range of recent research activities within each LEP area. Given the usual cycle of funding of 2-5 years, this time period gives a good indication of current research expertise and skills in the LEPs.

Bibliometric analysis of publications is a complex activity that is prone to bias depending upon the way in which performance is measured. There are a number of available measures which attempt to identify and compare one scientist to another on the basis of a number that describes attributes of a publication's worth. Of the various bibliometric measures, *h-index* is the one that attempts to remove the bias when comparing different fields of research. It arose as one of the first measures after Impact Factor, which showed a distinct bias towards a small number of publications, particularly to those in the biomedical fields. This meant that a mediocre clinical science publication record could at face value appear as good as a stellar one from physics as they would have similar Impact Factors. Many attempts have been made to overcome this bias (e.g. Eigenfactor, *h-index*, etc) all of which have relative merits and downsides. For this piece of work we are fundamentally interested in measuring the quantity and impact of research output. Currently, the easiest (and non-licensed) and most appropriate measure is the *h-index*.

The simplest way to define *h-index* is as follows. An author has an *h-index* of 10 if they have published 10 papers that have been cited at least 10 times in other papers. Extending this further, if the same author has published 100 papers, and their *h-index* is 10, that means that 10 of their papers have at least 10 citations, and the remaining 90 have less than 10 citations. In essence, it is measuring the quantity of the most cited papers by an author as a measure of how popular they are, and by extension how well-regarded they are by their peers. The higher the number, the more popular more of their articles must be, indicating therefore that the author has a greater impact within their research field. So, both productivity (volume of publications) and their impact are being measured. The latter is very much related to the quality of the published material as perceived by the peer group of the author. High-quality research output will have a higher *h-index*.

This concept has been extended to provide an indication of the *h-index* value of a journal (SCImago. (2007). SJR — SCImago Journal & Country Rank. Retrieved March 07, 2015, from http://www.scimagojr.com). In essence, a journal has an *h-index* of 10 if 10 of the papers published in it are cited more than 10 times, and the rest are cited less than 10 times. This value for a journal indicates the likely quality of the publications within it - the higher the *h-index* value, the greater the likelihood that

a published article will have higher impact and readership. We have used a value that is the average of the last three years' *h-index* score of a journal for this research. This also helps to provide an assessment of the likely impact of newly published articles that will not have had much time to generate citation of their own. The productivity (number of articles published) element for a journal is limited by the number of issues and articles per issue published within a year and is therefore a fixed value usually. This means that in our analysis, the number is very much correlated with the impact element of the measure and productivity must be looked at in other ways (see below). Many authors favour using the *h-index* in this way because:

- It allows for open access journals (e.g. PLOS One)
- It provides a view of journal quality
- It is license free and thus enables to the client to re-use the information
- It is easy to calculate and therefore define

Some limitations do exist, particularly when comparing across fields (i.e. Life Sciences and Physics), where the sheer volume of research activity will create a greater opportunity for citation of a piece of published work. For this reason, we have assigned categories of research at two levels (domain and subject), to enable both global (domain to domain) and detailed (subject to subject) comparative analysis between LEPs whilst removing the inherent comparative bias. In other words, we will be comparing like with like across the LEPs.

For this exercise, we have used a collection of 153,086 publications from UK-based organisations extracted from three main sources of data: public institutional repositories, Pubmed and Scopus sources. Within this corpus of records, duplicates were identified and removed, and any gaps in records from one source were completed using others. In addition, each institution was identified in the publication data and each institution was, by virtue of its postcode and address information, assigned to a LEP. This created a highly cleansed dataset, which was representative of the activity across the entire UK. This yielded a final analysis dataset for this report of 145,341 articles, spanning two years up to the end of October 2014.

With respect to identifying the themes of journals, we have opted to use a system that is somewhat similar to that used by Scopus, but with some modification to generate a more simplified two-level system (Domain and Subject) as opposed to a three-level hierarchical system (Domain, Area, Subject). Within this system, as far as is possible, we have assigned journals Domains and Subjects based upon content type. For example, a geology paper will be published in a Geosciences journal. However, in the case with journals that have multiple subject areas (e.g. Nature), we have sought to distribute to more than one section based upon the content type of a publication. This is not precise but will ensure that if a paper is published in Nature, it will be counted and counted in the correct Domain and a relevant Subject area. What this does mean for the purposes of this exercise is that comparison data may count some article in multiple Domains, leading to a degree of double counting. Therefore comparison between Domains or Subjects within a LEP, or between LEPs is not advised. Only direct Domain to Domain, or Subject to Subject is valid in this analysis. In practice this means that comparing the Chemistry Domain to the Clinical Sciences Domain within a LEP is not valid, whereas comparing a Chemistry Domain across

LEPs is. Since the purpose of this paper is to describe a LEPs' research activities and assets, as surrogates for expertise and skills, such a comparison is valid, in addition to the results of analysis indicating the overall activity profile within a LEP. The table below summarises the valid comparisons the reader may draw from this analysis.

Description Level	Between LEPs	Within a LEP	Between LEPs
Domain	Can compare the same domain ✓	Cannot compare different domains ✗	Cannot compare different domains ✗
Subject	Can compare the same subject ✓	Cannot compare different subjects ✗	Cannot compare different subjects ✗

Summary of valid comparisons of relative measures of research activity from the publication dataset used in this research.

In reported results from the analysis of this dataset, each paper's primary author's address (after checking), was mapped to a post code. This was subsequently used to map the location of that author on to a LEP. Given that the primary author is usually the head of the research group, it is a good surrogate for identifying the locations of research interests across the LEPs. In summarising data to provide measures to identify where key research activities are on-going and their relative impact, two calculations were performed. The first was a straightforward count of the publications that are assigned to a LEP and the second was to use the average 3 year *h-index* value of journal to create a total value or score for a LEP. Total comparisons between LEPs of these two measures was not carried out, as in order to provide some context to the types of research activity, each article was also assigned a Domain (1 of 11) and a subject (1 of 245 subject), which were used to summarise the activity in each LEP. Thus, in order to view these summaries expressed from *h-index*, segmented by domain, there was a need to normalise the data to help to create graphs that had ranges of values across domains that could be more easily assimilated by the reader.

For each subject area and domain, we compared the spread of *h-index* values. They showed a non-normal distribution, indicating that using a median summary value rather than an average would provide a result with the least bias for comparing similar Domains or Subjects between LEPs. For that reason we have opted to use a median value when calculating a summary figure for a Domain or a Subject area. By way of example, when looking to create a summary value for all chemistry journals in a LEP, the spread of *h-index* values for the journals was non-normal. So rather than calculate the average *h-index* per publication in chemistry in a single LEP, a median value was assigned instead. It is this value that is used to compare LEPs which is referred to as an Impact Score.

Throughout this report, when viewing the results of analysis of publications, the reader is presented with two main summary measures relating to research activity

within a Domain or Subject Area in a LEP: Volume of publication output by LEP and Impact Score of the research activity by LEP.

Intellectual Property Protection

Patents

For this indicator we mapped the location of inventors listed on GB patents. To do this we ran searches of in-house patent databases generated using publicly accessible sources and paid for sources (United Stated Patent and Trademark Office and the European Patent Office). Our in-house database allows much greater freedom of analysis and we have developed numerous visualisation and query tools. Currently, our database contains over 12 million patent records and in excess of 120 million documents and records. Our search of both the USPTO and EPO datasets showed that the EPO datasets has greater coverage of GB patents than the US so it was used solely for the purpose of reporting in this work. However the USPTO analysis has been undertaken and completed independently of the EPO data.

We undertook an extract from our datasets that mapped inventors listed on patents to LEPs using address information. As with publication information, we required at least two pieces of information (name, address, email and employer; cross-referencing to the USPTO dataset) to correlate and provide a positive address ID for an inventor. In 53% of the cases, the address information was insufficient to provide a positive location while 8% had partial information. For this report, we used the remaining 39% to map the location of inventors to LEPs. This 39% equates to some 3.5million inventors listed on patents which is a large number of inventors. However, it must be noted that they are not unique inventors as some could possibly be counted many times if they have multiple patents. They are also extracted from patents stretching back many years. Therefore, in our analysis, we have separated the patents in to groups based on the age of the patent, with day zero being the priority date of the patent. Additional explanation of the timescales used is given in the relevant sections of the report to help the reader to interpret what the results mean. In general, 'young' patents are those up to and including 3 years old as of 31 December 2014. The reason this point was chosen is because (1) it is a critical decision point for owners of a patent and they will have to decide in which territories to request protection for their invention (2) this is the point when costs become significant and so decisions to maintain or drop patents are likely to be made, and (3) as with publications, the younger the document, the greater the likelihood that the author/inventor is still at the address location provided in the document, thus providing a more up-to-date and accurate picture of the distribution of inventors across the LEPs.

‘Knowledge Assets’ - Note D1

List of publishing institutions, London

Atlantis Healthcare UK
Barking Havering and Redbridge University Hospitals NHS Trust
Barts and the London School of Medicine and Dentistry
Birkbeck University of London
Brunel University
Camden and Islington NHS Foundation Trust
Chelsea and Westminster Hospital
City University London
Croydon Health Services NHS Trust
East London NHS Foundation Trust
Epsom and St Helier University Hospitals NHS Trust
Genetic Alliance UK
GlaxoSmithKline
Goldsmiths University of London
Great Ormond St Hospital
Guy's and St Thomas' NHS Foundation Trust
Homerton University Hospital NHS Foundation Trust
Imperial College Healthcare
Imperial College Healthcare NHS Trust
Imperial College London
Institute of Advanced Legal Studies
Institute of Cancer Research
Institute of Commonwealth Studies
Institute of Education University of London
Institute of Zoology
King's College Hospital
King's College London
Kingston University
LGC/LGC Group
London Ambulance Service NHS Trust
London Business School
London Metropolitan University
London School of Economics
London School of Hygiene & Tropical Medicine
London South Bank University
Middlesex University
Moorfields Eye Hospital NHS Foundation Trust
National Centre for Bowel Research and Surgical Innovation
National Offender Management Service
National Physical Laboratory
Natural History Museum London
North East London NHS Foundation Trust
North West London Hospitals NHS Trust
Nuffield Trust 59 New Cavendish Street W1G 7LP London
Oxleas NHS Foundation Trust

Peninsula College of Medicine and Dentistry
Public Health England
Queen Mary University of London
Queen Victoria Hospital NHS Foundation Trust
Roehampton University London
Royal Botanic Gardens Kew
Royal Brompton Hospital
Royal College of Psychiatrists
Royal Free London NHS Foundation Trust
Royal National Orthopaedic Hospital NHS Trust
Royal Veterinary College
SOAS University of London
South London and Maudsley NHS Foundation Trust
Southwark Community Team for Adults with Learning Disabilities
Springfield Hospital South West London NHS Trust St George's Mental Health
St George's Healthcare NHS Trust
St George's University of London
Tavistock and Portman NHS Trust
The North West London Hospitals NHS Trust
The Royal Marsden
UCL School of Pharmacy London
UCL University
UCLH NHS Trust
University College of London
University College University of London
University of East London
University of Greenwich
University of West London
University of Westminster
West London Mental Health Trust
Whittington Health NHS

D4: Publications volume and impact

A combined volume and impact score has been calculated for:

1. All publications across all subject domains
2. Publications indicative of the 'Great 8 technologies'
3. Publications indicative of the 'Innovate Priority Areas'
4. Publications indicative of the 'Industrial Strategy Sectors'

The 'combined scores' consist of average scores for:

Element of overall score	Measure	Explanatory notes
• volume of output	Each LEP area's score is its volume of output expressed as a fraction of volume of output in the leading LEP area.	-
• volume of output per organisation	Each LEP area's score is its volume of output *per organisation* expressed as a fraction of the 'volume of output per organisation' in the leading LEP area.	Only organisations publishing within a field are counted in the per organisation calculation.
• impact per organisation	Each LEP area's score is expressed as a fraction of the 'impact per organisation' score in the leading LEP area.	'impact per organisation' is measured in terms of the cumulative quality scores (measured by journal h-scores) of all relevant publications, divided by the total number of publishing organisations.
• impact per publication	Each LEP area's score is expressed as a fraction of the 'impact per publication' score in the leading LEP area.	'impact per publication' is measured by the average journal h-score for all relevant publications.

The scores for each of the four elements for each of the domains were averaged. This gives equal weight to all four elements, and to each subject area domain.

For 'all subject domains', the four elements were averaged across the 11 subject domains.

For 'Great 8 technologies', the four elements were averaged across 7 of the 'great 8 technologies' – 'regenerative medicine' was excluded due to the low number of publications in this area.

For 'Innovate UK Priority Areas', the four elements were averaged across 12 of the 13 areas – 'digital economy' was excluded due to the low number of publications in this area.

For 'Industrial Strategy Sectors, the four elements were averaged across 10 of the 11 areas – 'automotive' was excluded, again due to the low number of publications in this area.

The results are as follows:

Ranking of LEPs: Combined score for Volume of publications, Volume of publications per organisation, Impact per organisation, and Impact per publication, for all 11 overarching subject areas, 2 years up to October 2014

11 overarching subject areas				
Rank	LEP	Region	Classification	Score
1	Leeds City Region	Yorkshire and Humber	2nd Tier	0.64
2	Coventry and Warwickshire	West Midlands	3rd Tier	0.61
3	London	London	Capital	0.61
4	Solent	South East	3rd Tier	0.54
5	Greater Cambridge & Greater Peterborough	East of England (part East Midlands)	3rd Tier	0.54
6	Oxfordshire	South East	Rural	0.52
7	Derby Derbyshire Nottingham and Nottinghamshire	East Midlands	2nd Tier	0.47
8	North Eastern	North East	2nd Tier	0.47
9	West of England	South West	2nd Tier	0.47
10	Leicester and Leicestershire	East Midlands	2nd Tier	0.42
11	York and North Yorkshire	Yorkshire and Humber	Rural	0.42
12	Heart of the South West	South West	3rd Tier	0.40
13	Greater Manchester	North West	2nd Tier	0.39
14	Thames Valley Berkshire	South East	Lon C-R	0.39
15	Greater Birmingham and Solihull	West Midlands	2nd Tier	0.39
16	Sheffield City Region	Yorkshire and Humber (part East Midlands)	2nd Tier	0.35
17	South East Midlands	East Midlands (part South East & East of England)	3rd Tier	0.34
18	New Anglia	East of England	3rd Tier	0.34
19	Enterprise M3	South East	Lon C-R	0.31
20	Lancashire	North West	3rd Tier	0.30
21	Humber	Yorkshire and Humber	3rd Tier	0.29
22	Liverpool City Region	North West	2nd Tier	0.26
23	South East	South East (part East of England)	Lon C-R	0.26
24	Cornwall and the Isles of Scilly	South West	Rural	0.24
25	Coast to Capital	South East (part London)	Lon C-R	0.24
26	Stoke-on-Trent and Staffordshire	West Midlands	3rd Tier	0.24
27	Cheshire and Warrington	North West	3rd Tier	0.23
28	Dorset	South West	3rd Tier	0.16
29	Tees Valley	North East	3rd Tier	0.14
30	Hertfordshire	East of England	Lon C-R	0.13

31	Black Country	West Midlands	2nd Tier	0.11
32	The Marches	West Midlands	Rural	0.09
33	Buckinghamshire Thames Valley	South East	Lon C-R	0.09
34	Gloucestershire	South West	Urban-rural	0.09
35	Swindon and Wiltshire	South West	3rd Tier	0.09
36	Northamptonshire	East Midlands	3rd Tier	0.09
37	Greater Lincolnshire	East Midlands (part Yorkshire and Humber)	Rural	0.08
38	Cumbria	North West	Rural	0.07
39	Worcestershire	West Midlands	Urban-rural	0.03

Sources: Scopus, PubMed, Institutional repositories

Ranking of LEPs: Combined score for Volume of publications, Volume of publications per organisation, Impact per organisation, and Impact per publication, for 7 of the Great 8 Technologies (Regenerative Medicine has been excluded), 2 years up to October 2014

7 of the Great 8 Technologies				
Rank	**LEP**	**Region**	**Classification**	**Score**
1	Coventry and Warwickshire	West Midlands	3rd Tier	0.59
2	London	London	Capital	0.57
3	Leeds City Region	Yorkshire and Humber	2nd Tier	0.51
4	Oxfordshire	South East	Rural	0.50
5	Derby Derbyshire Nottingham and Nottinghamshire	East Midlands	2nd Tier	0.45
6	Solent	South East	3rd Tier	0.45
7	Greater Cambridge & Greater Peterborough	East of England (part East Midlands)	3rd Tier	0.44
8	North Eastern	North East	2nd Tier	0.42
9	Greater Manchester	North West	2nd Tier	0.40
10	Enterprise M3	South East	Lon C-R	0.39
11	West of England	South West	2nd Tier	0.39
12	Sheffield City Region	Yorkshire and Humber (part East Midlands)	2nd Tier	0.38
13	Leicester and Leicestershire	East Midlands	2nd Tier	0.36
14	Thames Valley Berkshire	South East	Lon C-R	0.36
15	Heart of the South West	South West	3rd Tier	0.32
16	Greater Birmingham and Solihull	West Midlands	2nd Tier	0.32
17	South East Midlands	East Midlands (part South East & East of England)	3rd Tier	0.31
18	Lancashire	North West	3rd Tier	0.30
19	Liverpool City Region	North West	2nd Tier	0.30
20	York and North Yorkshire	Yorkshire and Humber	Rural	0.27
21	Humber	Yorkshire and Humber	3rd Tier	0.24
22	New Anglia	East of England	3rd Tier	0.23
23	Coast to Capital	South East (part London)	Lon C-R	0.23
24	Cheshire and Warrington	North West	3rd Tier	0.22
25	South East	South East (part East of England)	Lon C-R	0.20
26	Cornwall and the Isles of Scilly	South West	Rural	0.15
27	Stoke-on-Trent and Staffordshire	West Midlands	3rd Tier	0.15
28	Dorset	South West	3rd Tier	0.14
29	Greater Lincolnshire	East Midlands (part Yorkshire and Humber)	Rural	0.08
30	Buckinghamshire Thames Valley	South East	Lon C-R	0.07

31	Hertfordshire	East of England	Lon C-R	0.06
32	Tees Valley	North East	3rd Tier	0.05
33	Gloucestershire	South West	Urban-rural	0.04
34	Black Country	West Midlands	2nd Tier	0.04
35	The Marches	West Midlands	Rural	0.03
36	Swindon and Wiltshire	South West	3rd Tier	0.02
37	Worcestershire	West Midlands	Urban-rural	0.01
38	Northamptonshire	East Midlands	3rd Tier	0.00
39	Cumbria	North West	Rural	0.00

Sources: Scopus, PubMed, Institutional repositories

Ranking of LEPs: Combined score for Volume of publications, Volume of publications per organisation, Impact per organisation, and Impact per publication, for 12 of the 13 Innovate Priority Areas (Digital Economy has been excluded), 2 years up to October 2014

12 of the 13 Innovate UK Priority Areas				
Rank	**LEP**	**Region**	**Classification**	**Score**
1	Leeds City Region	Yorkshire and Humber	2nd Tier	0.63
2	London	London	Capital	0.59
3	Solent	South East	3rd Tier	0.50
4	Derby Derbyshire Nottingham and Nottinghamshire	East Midlands	2nd Tier	0.49
5	Coventry and Warwickshire	West Midlands	3rd Tier	0.48
6	North Eastern	North East	2nd Tier	0.47
7	West of England	South West	2nd Tier	0.46
8	Greater Cambridge & Greater Peterborough	East of England (part East Midlands)	3rd Tier	0.45
9	Oxfordshire	South East	Rural	0.43
10	Greater Manchester	North West	2nd Tier	0.43
11	Leicester and Leicestershire	East Midlands	2nd Tier	0.39
12	Heart of the South West	South West	3rd Tier	0.38
13	Greater Birmingham and Solihull	West Midlands	2nd Tier	0.38
14	Sheffield City Region	Yorkshire and Humber (part East Midlands)	2nd Tier	0.38
15	Thames Valley Berkshire	South East	Lon C-R	0.36
16	York and North Yorkshire	Yorkshire and Humber	Rural	0.34
17	South East Midlands	East Midlands (part South East & East of England)	3rd Tier	0.33
18	Enterprise M3	South East	Lon C-R	0.29
19	Lancashire	North West	3rd Tier	0.27
20	Humber	Yorkshire and Humber	3rd Tier	0.27
21	New Anglia	East of England	3rd Tier	0.26
22	Liverpool City Region	North West	2nd Tier	0.25
23	South East	South East (part East of England)	Lon C-R	0.25
24	Coast to Capital	South East (part London)	Lon C-R	0.21
25	Cornwall and the Isles of Scilly	South West	Rural	0.20
26	Cheshire and Warrington	North West	3rd Tier	0.20
27	Stoke-on-Trent and Staffordshire	West Midlands	3rd Tier	0.17
28	Dorset	South West	3rd Tier	0.11
29	Hertfordshire	East of England	Lon C-R	0.10
30	Buckinghamshire Thames Valley	South East	Lon C-R	0.09
31	Tees Valley	North East	3rd Tier	0.09
32	Black Country	West Midlands	2nd Tier	0.08

33	The Marches	West Midlands	Rural	0.07
34	Greater Lincolnshire	East Midlands (part Yorkshire and Humber)	Rural	0.07
35	Northamptonshire	East Midlands	3rd Tier	0.06
36	Gloucestershire	South West	Urban-rural	0.06
37	Cumbria	North West	Rural	0.05
38	Swindon and Wiltshire	South West	3rd Tier	0.04
39	Worcestershire	West Midlands	Urban-rural	0.02

Sources: Scopus, PubMed, Institutional repositories

Ranking of LEPs: Combined score for Volume of publications, Volume of publications per organisation, Impact per organisation, and Impact per publication, for 10 of the 11 Industrial Strategy Sectors ('Automotive' has been excluded), 2 years up to October 2014

10 of the 11 Industrial Strategy Sectors				
Rank	**LEP**	**Region**	**Classification**	**Score**
1	Leeds City Region	Yorkshire and Humber	2nd Tier	0.59
2	London	London	Capital	0.54
3	Solent	South East	3rd Tier	0.50
4	North Eastern	North East	2nd Tier	0.49
5	Coventry and Warwickshire	West Midlands	3rd Tier	0.47
6	Derby Derbyshire Nottingham and Nottinghamshire	East Midlands	2nd Tier	0.44
7	West of England	South West	2nd Tier	0.43
8	Greater Cambridge & Greater Peterborough	East of England (part East Midlands)	3rd Tier	0.42
9	South East Midlands	East Midlands (part South East & East of England)	3rd Tier	0.41
10	Heart of the South West	South West	3rd Tier	0.41
11	Leicester and Leicestershire	East Midlands	2nd Tier	0.40
12	Oxfordshire	South East	Rural	0.40
13	Greater Manchester	North West	2nd Tier	0.38
14	Enterprise M3	South East	Lon C-R	0.35
15	Greater Birmingham and Solihull	West Midlands	2nd Tier	0.34
16	Sheffield City Region	Yorkshire and Humber (part East Midlands)	2nd Tier	0.31
17	Thames Valley Berkshire	South East	Lon C-R	0.30
18	York and North Yorkshire	Yorkshire and Humber	Rural	0.29
19	Liverpool City Region	North West	2nd Tier	0.25
20	Lancashire	North West	3rd Tier	0.25
21	Coast to Capital	South East (part London)	Lon C-R	0.24
22	Humber	Yorkshire and Humber	3rd Tier	0.23
23	Cornwall and the Isles of Scilly	South West	Rural	0.21
24	New Anglia	East of England	3rd Tier	0.20
25	Cheshire and Warrington	North West	3rd Tier	0.18
26	South East	South East (part East of England)	Lon C-R	0.17
27	Stoke-on-Trent and Staffordshire	West Midlands	3rd Tier	0.14
28	Dorset	South West	3rd Tier	0.10
29	Greater Lincolnshire	East Midlands (part Yorkshire and Humber)	Rural	0.09
30	Black Country	West Midlands	2nd Tier	0.09
31	The Marches	West Midlands	Rural	0.06
32	Buckinghamshire Thames Valley	South East	Lon C-R	0.06
33	Tees Valley	North East	3rd Tier	0.05

34	Northamptonshire	East Midlands	3rd Tier	0.05
35	Hertfordshire	East of England	Lon C-R	0.04
36	Cumbria	North West	Rural	0.04
37	Swindon and Wiltshire	South West	3rd Tier	0.03
38	Worcestershire	West Midlands	Urban-rural	0.03
39	Gloucestershire	South West	Urban-rural	0.03

Sources: Scopus, PubMed, Institutional repositories

D5: Knowledge assets – higher education institutions and 'science and technology' intermediary organisations in LEP areas

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone [University EZ Pilots]
Black Country	University of Wolverhampton	-	University of Wolverhampton Science Park - Wolverhampton		-	Black Country (Advanced Manufacturing/Engineering; Aerospace; Automotive)
Buckinghamshire and Thames Valley	Buckinghamshire New University *University of Buckingham*	-	-	BM TRADA, High Wycombe, Buckinghamshire.	-	-
Cheshire and Warrington	University of Chester	-	-	C-Tech Innovation, Capenhurst Technology Park, Chester. National Nuclear Laboratory, Birchwood Park, Warrington.	-	-
Coast to Capital	University of Brighton University of Chichester University of Sussex	Digital Catapult Centre. Brighton.	-	Leatherhead Food Research, Leatherhead, Surrey.	-	-
Cornwall and the Isles of Scilly	Falmouth University University of Exeter Cornwall campuses: Penryn & Truro: base for the University of Exeter Medical School in Cornwall and home to the European Centre for Environment & Human Health (ECEHH).	-	Health & Wellbeing Innovation Centre – Truro Pool Innovation Centre - Pool Tremough Innovation Centre - Tremough	-	-	Newquay Aerohub (Advanced Manufacturing/Engineering; Energy; Transport)

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
Coventry and Warwickshire	Coventry University University of Warwick	High Value Manufacturing (Coventry & Ansty)	Coventry University Technology Park – Coventry University of Warwick Science Park – Coventry MIRA Technology Park – Nuneaton Stoneleigh Park - Warwickshire	MTC. Ansty Park, Coventry.	-	-
Cumbria	University of Cumbria	-	Westlakes Science & Technology Park - Cumbria		-	-
Derby, Derbyshire, Nottingham and Nottinghamshire (D2N2)	University of Derby University of Nottingham Nottingham Trent University	-	BioCity Nottingham - Nottingham Nottingham Science and Technology Park - Nottingham University of Nottingham Innovation Park – Nottingham Mansfield i-Centre Mansfield Newark Beacon - Newark The Hive, Nottingham Trent University Worksop Turbine - Worksop	Health and Safety Laboratory, Buxton, Derbyshire. Triangle Business Park Worksop. Mansfield I-Centre, Oakham Business Park Hamilton Way Mansfield. Newark Beacon, Beacon Hill Office Park, Newark Nottinghamshire.	-	Nottingham (Advanced Manufacturing/Engineering; Creative Industries; Energy; Industrial Biotechnology; Pharmaceuticals & Healthcare) [Nottingham: focusing on fostering links between academics and businesses in areas of advanced manufacturing, aerospace and energy]
Dorset	Arts University Bournemouth Bournemouth University	-	Winfrith Technology Centre - Winfrith, Dorset		Centre for Environment, Fisheries and Aquaculture Science, Lowestoft (DEFRA)	-

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
Enterprise M3	University for the Creative Arts Royal Holloway, University of London University of Surrey *University of Winchester*	-	Surrey Research Park – Guildford (University owned)	Animal Health and Veterinary Laboratories Agency, Addlestone, Surrey. QuinetiQ, Farnborough, Hampshire. Smith Institute, Surrey Research Park, Guildford, Surrey.	Chilbolton Observatory, nr. Stockbridge Hampshire (STFC)	-
Gloucestershire	University of Gloucestershire Royal Agricultural University	-	-	Campden BRI, Chipping Campden, Gloucestershire.	-	-
Greater Birmingham and Solihull	Aston University University of Birmingham Birmingham City University University College Birmingham Newman University		Aston Science Park – Birmingham Birmingham Research Park Ltd – Birmingham University Science Park, Pebble Mill - Edgbaston, Birmingham Longbridge Technology Park -Birmingham	High Value Manufacturing Catapult, Solihull.	-	Birmingham City Centre (Advanced Manufacturing/Engineering; Business Services; Financial Services; ICT; Pharmaceuticals & Healthcare)

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
Greater Cambridge and Greater Peterborough	*Anglia Ruskin* University of Cambridge	-	*Anglia Ruskin MedTech Campus* Babraham Research Campus – Cambridge Cambridge Research Park - Cambridge Cambridge Science Park - Cambridge Cambridge Bio-Medical Campus – Cambridge Future Business Centre - Cambridge Granta Park – Cambridge Papworth Bioincubator - Cambridge St John's Innovation Centre – Cambridge University of Cambridge West Cambridge Site - Cambridge Chesterford Research Park - Saffron Walden Wellcome Trust Genome Campus - Hinxton	National Institute for Agricultural Botany, Cambridge. TWI Ltd, Great Abington, Cambridge.	Babraham Institute - Babraham Cambridge (BBSRC) *Rothamsted Research, Harpenden (BBSRC)*	Alconbury Enterprise Campus (Advanced Manufacturing/Engineering; ICT; Industrial Biotechnology; Low Carbon Industry)
Greater Lincolnshire	Bishop Grosseteste University University of Lincoln	-	Sparkhouse - Lincoln		-	-
Greater Manchester	University of Bolton University of Manchester Manchester Metropolitan University Royal Northern College of Music University of Salford	-	Manchester Science Park Ltd – Manchester Hexagon Tower - Manchester Innospace - Manchester	Stockport Business and Innovation Centre.	-	Manchester Airport City (Advanced Manufacturing/Engineering; Aerospace; Business Services; Construction & Built Environment; Industrial Biotechnology; Pharmaceuticals & Healthcare)

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
Heart of the South West	University of Exeter Plymouth University University of St Mark and St John	-	Tamar Science Park – Plymouth Exeter Science Park- Exeter Mendip Hub – Wells Plymouth Science Park - Plymouth		Plymouth Maritime laboratory; Met Office	-
Hertfordshire	University of Hertfordshire	-	BioPark - Welwyn Garden City Stevenage Bioscience Catalyst - Stevenage	BRE Group, Watford Furniture Industry Research Association International Ltd, Stevenage, Herts.	*Rothamsted Research, Harpenden (BBSRC)*	-
Humber	University of Hull	-	Newlands Science Park - Hull		-	Humber Green Port Corridor (AgriFood; Energy; Retail & Logistics; Transport) Humber Renewable Energy Super Cluster (AgriFood; Energy; Retail & Logistics; Transport)
Lancashire	University of Central Lancashire Edge Hill University Lancaster University	-	Lancaster Science Park – Lancaster		-	Lancashire (BAE Systems sites at Samlesbury and Warton, east and west of Preston) (Advanced Manufacturing/Engineering; Aerospace; Automotive)

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
Leeds City Region	University of Bradford University of Huddersfield University of Leeds Leeds College of Art Leeds Metropolitan University Leeds Trinity University *University of York* *York St John University*	*Digital Catapult Centre Yorkshire* (Leeds City Region LEP and York, North Yorkshire and East Riding LEP)	Leeds Innovation Centre – Leeds Listerhills Science Park – Bradford 3M Buckley Innovation Centre Huddersfield *National Agri-food Innovation Campus - York*	Barnsley Digital Media Centre	-	Aire Valley Leeds (Business Services; Energy; Pharmaceuticals & Healthcare) [Bradford: based around a "digital health zone" with 2 sites, one focusing on a "digital exchange" to support technological development in communications enabled healthcare and another focusing on clinical pilots of new healthcare products and services]
Leicester and Leicestershire	De Montfort University University of Leicester Loughborough University	-	Loughborough University Science and Enterprise Parks -Loughborough	Pera Technology, Melton Mowbray, Leicestershire Harborough Innovation Centre, Wellington Way, Airfield Business Park, Market Harborough, Leicestershire.	-	MIRA Technology Park (nr. Nuneaton) (Advanced Manufacturing/Engineering; Automotive; Low Carbon Industry)

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
Liverpool City Region	University of Liverpool Liverpool Hope University Liverpool John Moores University Liverpool Institute for Performing Arts	-	Daresbury Science and Innovation Campus - Daresbury Liverpool Innovation Park - Liverpool Liverpool Science Park – Liverpool MerseyBio – Liverpool [Sci-Tech Daresbury]		Daresbury Laboratory, Daresbury (STFC)	Mersey Waters (Advanced Manufacturing/Engineering; Automotive; Business Services; Energy; Pharmaceuticals & Healthcare) *Sci-Tech Daresbury (Advanced Manufacturing/Engineering; Aerospace; Energy; ICT; Pharmaceuticals & Healthcare)* [Liverpool: "Sensor City": focusing on development of sensor technologies that measure and collect data from the external environment]
London	Birkbeck College Brunel University Institute of Cancer Research City University, London Courtauld Institute of Art University of East London Institute of Education Goldsmiths' College University of Greenwich Guildhall School of Music & Drama Heythrop College Imperial College London King's College London Kingston University University of the Arts London University of London University College London UCL School of Pharmacy London Business School London School of Economics and Political Science London School of Hygiene & Tropical Medicine London Metropolitan University London South Bank University Middlesex University	Cell Therapy Catapult Connected Digital Economy Future Cities	Accelerator - London Metropolitan University BioPark - Welwyn Garden City Brunel Science Park – Uxbridge Cockpit Arts -London Connect - London Lee Valley Technopark - Tottenham South Bank Technopark - Southwark The London Science Park at The Bridge, Dartford Imperial College Incubator Imperial West Knowledge Dock (University of East London) London South Bank University londoneast-uk business and technical park Queen Mary BioEnterprises	ARUP, London HQ. Building Cost Information Service of the Royal Institution of Chartered Surveyors, London. BMT Group Ltd, Teddington, Middlesex. CIRIA, London. Institute for Sustainability, London. LGC, Teddington, Middlesex National Physical Laboratory, Teddington, Middlesex. PA Consulting, London.	National Physical Laboratory, Teddington, London (DBIS)	Royal Docks (Energy)

	School of Oriental and African Studies Queen Mary University of London Ravensbourne Roehampton University Rose Bruford College Royal Academy of Music Royal Central School of Speech and Drama Royal College of Art Royal College of Music Royal Veterinary College St George's University of London St Mary's University College Trinity Laban Conservatoire of Music and Dance University of West London University of Westminster		Innovation Centre - London Stanmore Business & Innovation Centre - Stanmore Middlesex	Thames Innovation Centre, Erith, Kent.		
LEP	**Higher Educations Institutions**	**Catapult Centres**	**Science Parks**	**Other Research & Technology Organisations**	**Government Scientific Research Institutes**	**Enterprise Zone**
New Anglia	*Anglia Ruskin* University of East Anglia Norwich University of the Arts Universities of East Anglia and Essex; Joint Provision at University Campus Suffolk	-	*Anglia Ruskin MedTech Campus* Norwich Research Park - Colney Haverhill Research Park - Haverhill		The Pirbright Institute, Norwich (BBSRC) The Genome Analysis Centre, Norwich (BBSRC) Institute of Food Research, Norwich (BBSRC) John Innes Centre, Norwich (BBSRC) Centre for Environment, Fisheries and Aquaculture Science, Weymouth (DEFRA); British Trust for Ornithology;	Great Yarmouth and Lowestoft (Business Services; Construction & Built Environment; Energy; Retail & Logistics)

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
North Eastern	University of Durham Newcastle University Northumbria University Newcastle University of Sunderland	High Value Manufacturing (Wilton/ Sedgefield). *The Digital Catapult Centre* (North East & Tees Valley LEP)	NETPark - The North East Technology Park - Sedgefield John Buddle Work Village -Newcastle Newcastle Science Central - Newcastle Sunderland Science Park – Sunderland North East Business and Innovation Centre Ltd - Sunderland		-	North Eastern (Advanced Manufacturing/Engineering; Energy; Low Carbon Industry; Transport)
Northamptonshire	University of Northampton	-	Scott-Bader Innovation Centre - Wellingborough Silverstone Park Innovation Centre - Towcester	Axillium Rserach, Daventry. SATRA Technology Centre, Kettering, Northamptonshire.	-	-
Oxfordshire	University of Oxford Oxford Brookes University	Satellite Applications (Harwell)	Begbroke Science Park - Begbroke near Oxford Oxford Science Park – Oxford Cherwell Innovation Centre - Upper Heyford Culham Science Centre Culham Innovation Centre Harwell Science and Innovation Campus - Harwell Oxford Oxford Centre for Innovation – Oxford Witney Business & Innovation Centre Witney Oxfordshire	HR Wallingford Group Ltd, Wallingford, Oxfordshire. Satellite. One St Aldates, St Aldate's Oxford. Bicester Innovation Centre, Commerce House, Bicester	Rutherford Appleton Laboratory , Harwell (STFC) Diamond Light Source (70% stake, with the other 30% owned by the Wellcome Trust) Rutherford Appleton Laboratory, Harwell (STFC)	Science Vale UK (two sites at Harwell and Milton Park, nr Oxford) (Advanced Manufacturing/Engineering; Aerospace; Energy; ICT; Pharmaceuticals & Healthcare)

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
Sheffield City Region	University of Sheffield Sheffield Hallam University	High Value Manufacturing (Rotherham).	Advanced Manufacturing Park – Rotherham Sheffield Technology Parks - Sheffield The Sheffield Bioincubator - Sheffield	Fripp Design & Reseach Ltd. Medilink (Yorkshire & Humber) Ltd, Sheffield. Nuclear Advanced Manufacturing Research Centre. Advanced Manufacturing Research Centre with Boeing. Barnsley Digital Media Centre.	-	Sheffield City Region (6 sites along M1 corridor) (Advanced Manufacturing/Engineering; Aerospace; Creative Industries; Low Carbon Industry; Pharmaceuticals & Healthcare)
Solent	University of Portsmouth University of Southampton Southampton Solent University *University of Winchester*	-	Langstone Technology Park – Havant University of Southampton Science Park - Southampton Ocean Village Innovation Centre - Southampton Portsmouth Technopole - Portsmouth	Fareham Innovation Centre, Lee on the solent, Hampshire. .	Chilbolton Observatory, nr. Stockbridge Hampshire (STFC)	Solent (decommissioned Royal Navy airfield on Gosport Peninsula west of Portsmouth Harbour, between Portsmouth and Southampton) (Advanced Manufacturing/Engineering; Aerospace; Energy; Low Carbon Industry)
South East	*Anglia Ruskin University* Canterbury Christ Church University University of Essex University of Kent Writtle College	-	Writtle College – Chelmsford Kent Science Park – Sittingbourne The Bridge - Dartford Chesterford Research Park -Saffron Walden University of Essex Knowledge Gateway – Colchester CEME Innovation Centre, Rainham, Essex Discovery Park - Sandwich Kent Nucleus Business and Innovation Centre- Dartford		-	Discovery Park (nr. Canterbury) (AgriFood; Business Services; Energy; Industrial Biotechnology; Pharmaceuticals & Healthcare) Enterprise West Essex @ HarlowSouth (Advanced Manufacturing/Engineering; Aerospace; Creative Industries; Pharmaceuticals & Healthcare)

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
South East Midlands	University of Bedfordshire Cranfield University Open University University of Buckingham	Transport Systems (Milton Keynes)	Colworth Science Park – Sharnbrook Cranfield University Technology Park - Cranfield	BHR Group, Fluid Engineering Centre, Cranfield. Axillium Research, Daventry. SATRA Technology Centre, Kettering.	-	Northampton Waterside (Automotive; Construction & Built Environment; Retail & Logistics)
Stoke on Trent and Staffordshire	Keele University Staffordshire University	-	Staffordshire Technology Park - Stafford Staffordshire University Business Villages - Stafford Keele University Science and Business Park - Keele	Lucideon Ltd, Stoke on Trent, Staffordshire.	-	-
Swindon and Wiltshire	-	-	Tetricus BioIncubator - Porton Down Science Park, Salisbury	Science and Technology Facilities Council, Swindon.	Defence Science & Technology laboratory;	-
Tees Valley	Teesside University	*The Digital Catapult Centre* (North Est & Tees Valley LEP)	-	Centre for Process Innovation, Wilton, Redcar.	-	Tees Valley (Advanced Manufacturing/Engineering; Chemicals; Creative Industries; Energy)
Thames Valley Berkshire	University of Reading	-	University of Reading Science & Technology Centre – Reading Thames Valley Science Park - Reading Bracknell Enterprise & Innovation Hub - Bracknell	BSRIA Ltd, Bracknell, Berkshire. Thatcham (the motor insurance repair research centre), Thatcham, Berkshire. Bracknell Enterprise and Innovation Hub, The Ring Bracknell, Berkshire. Lily Hill House, Bracknell Berkshire.	-	-

LEP	Higher Educations Institutions	Catapult Centres	Science Parks	Other Research & Technology Organisations	Government Scientific Research Institutes	Enterprise Zone
The Marches	Harper Adams University	-	-		-	Hereford (Advanced Manufacturing/Engineering; Aerospace; AgriFood; Business Services; Construction & Built Environment; Security)
West of England	Bath Spa University University of Bristol University of the West of England, Bristol	High Value Manufacturing (Bristol)	Bristol and Bath Science Park - Emersons Green, nr. Bristol University of Bristol SETsquared Centre - Bristol	National Composites Centre, Bristol and Bath Science Park, Bristol.	Bristol Robotics Laboratoty;	Bristol Temple Quarter (Business Services; Creative Industries; Financial Services; ICT) [Bristol: partnership between University of Bristol and University of the West of England focusing on robotics, biosciences and health sciences]
Worcestershire	University of Worcester	-	Malvern Hills Science Park – Malvern University of Worcester		-	-
York and North Yorkshire	*University of York* *York St John University*	*Digital Catapult Centre Yorkshire* (Leeds City Region LEP and York, North Yorkshire and East Riding LEP)	York Science Park – York National Agri-food Innovation Campus - York	Food and Environment Research Agency, Sand Hutton, York. NNFCC, York Science Park, York.	Boulby Underground Laboratory North Yorkshire (STFC) Central Science Laboratory, Sand Hutton, York (DEFRA)	-

Key SRIs:
BBSRC: Biotechnology and Biological Sciences Research Council
STFC: Science and Technology Facilities Council
DEFRA: Department for Environment, Food and Rural Affairs
DBIS: Department for Business, Innovation and Skills
MoD: Ministry of Defence

Note: Italicised assets sit in more than one LEP.

D6: Qualitative Information on Innovation in LEP Strategies: Summaries of Strategic Economic Plans (SEPs) and European Structural Investment Fund (EUSIF) Strategies

LEP	Does LEP have specific SMART Specialisation/Innovation Strategy Document	What LEP says on Innovation/SMART Specialisation as part of SDPs/SIFs/Growth Deal	What are the LEPs innovation strengths & key features (according to SDPs; SIFs)
Bucks & Thames Valley	No Innovation strategy identified from documents/website Approach to innovation outlined in SDP & EUSIF Governance: No innovation board identified from website.	**SEP/Growth Deal** 5 key priority areas focus of SDP/Growth Deal: 1. Improving North-South transport connectivity to accelerate the delivery of key housing and employment sites. 2. Improving the integration of transport links to CrossRail and East West Rail stations 3. Investing in skills infrastructure and programmes to tackle welfare dependency and upskill young people 4. Creating high quality private sector jobs by supporting businesses to grow 4. Addressing housing affordability and supply £44.2 m secured as parts of Local Growth Fund. 6 projects received funding, with key focus on infrastructure development. 1 project with an explicit innovation focus: • 5G Test-bed - stimulating growth in Buckinghamshire electronics and telecommunications sector through early access to 5G technologies (cross-LEP Project).	**SEP** SDP identified the following strengths relating to innovation: • High proportion of employment in high and medium technology production and knowledge economy, ranking sixth of all LEP areas and third of all county council areas, behind Cambridgeshire and Hampshire. • Over-representation in all the 'Plan for Growth' sectors (e.g. Construction, Space; Creative Industries; and High-Tech Manufacturing) and many of the 'Industrial Strategy' sectors (Aerospace, Life Sciences, Education, Information Economy and Business Services). • In 2011-12, the Aerospace, Life Sciences, Information Economy, Business Services, Construction and Education sectors in the BTVLEP area all experienced positive employment growth. **EUSIF** ESIF notes that Bucks LEP has strengths in following areas relating to innovation: • High Performance Technology; - Motorsport (UK automotive strategy for growth and sustainability);

		2015 Growth Deal Expansion: extra £8.8m invested in Buckinghamshire between 2016 and 2021. 4 projects announced with 1 having explicit innovation focus: 1. Provision of business incubation and innovation centres for small and medium-sized businesses and start-ups. **EUSIF** **TO1 (Innovation) ERDF allocation:** £2m or 23.5% of ERDF total of £8.5m ESIF contains 5 priority themes with 'strengthening and exploiting our innovative capacity' listed as one of these. ESIF identifies a number of 'strategic needs' relating to innovation: 1. Low Level of High Growth Start-ups – fewer than some of the neighbouring LEPs; 2. Businesses experience difficulties connecting to the National and European innovation support system – complex landscape, many SMEs struggle to navigate; 3. Shortage of higher level workforce skills to support R&D – shortage of skilled graduates & researchers & postdocs to support firms in our growth sectors; 4. High costs of R&D require shared investment – support for collaborative R&D to commercialise new ideas and stimulate growth;	- Micro-electronics, Test and Measurement; and - Aerospace, Defence and Space (Lifting off: implementing the strategic vision for UK aerospace); • Life-sciences & Medical Technologies (The Strategy for UK Life Sciences) - Drugs Manufacture & Delivery Technology; - Medical devices (including Assistive Technology and Medical Robotics) and - Healthcare systems & services; • Information Economy (The Information Economy Strategy) - Systems Integration; - Cyber Security; and - Big Data; • Creative Industries - Film; - Digital Media; and - Games Development • Food and Drink • Business Services

		5. Business Networking for Innovation – businesses want a 'revitalised and refreshed approach to business networking'; 6. Shortage of Incubation – 2nd highest proportion of home based businesses in the UK & 35% of businesses indicated suitable low cost premises was the enabler of business growth; 7. Weak use of public procurement as a tool for generating innovations – potential to generate business opportunities from public sector downsizing & 'demand management' activities. EUSIF highlights following key areas of focus for its innovation strategy: *1. Supporting businesses and social enterprises to innovate & commercialise their innovations* ESIF notes that stimulating more companies to innovate is an important component of the LEPs local growth strategy. BTVLEP is keen to put in place a 'locally based' Innovation Adviser to support Buckinghamshire's SME's to better connect to the wider national and European innovation eco-system and integrate fully into the services provided by the likes of Growth Accelerator, The Technology Strategy Board, The Enterprise Europe Network and the European Commission *2. Stimulating increased levels of High Growth Start-ups & Enhancing our incubation facilities:* Buckinghamshire is	

		less successful at generating high growth business start-ups than many other parts of the UK. Key priorities are to support the creation of high growth start-up programmes that recognise Buckinghamshire's unique economic structure. *3. Supporting projects which strengthen our research capabilities: ESIF notes that* Buckinghamshire is relatively weak in public sector research assets. Identifies that stimulating increased levels of research and development linked to key public sector assets could have significant spill-over benefits, in terms of helping the public sector in Buckinghamshire secure additional R&D funding; helping the private sector develop new innovations; improving Buckinghamshire's inward investment proposition; and/or increasing the number of researchers/post-doctoral students in the local economy. *4. Enhancing collaboration in our key technology sectors:* Sectors networks that are of particular interests to the Buckinghamshire LEP are: • High Performance Technologies (Micro-electronics, Test and Measurement; Aerospace, Defence and Space); • Life-sciences & Medical Technologies (Drugs Manufacture & Delivery Technology; Medical devices	

		and Healthcare systems & services); • Information Economy (Systems Integration; Cyber Security and Big Data) • Creative Industries (Film; Digital Media; and Games Development) • Food and Drink (both high volume production and local food);	
Black Country	Currently working on developing innovation/SMART specialisation strategy/framework. SEP contains outline approach to innovation EUSIF contains Innovation as a priority theme. Governance: No innovation panel/sub-board, but has 'expert' advisers on innovation outside LEP formal structure.	**SEP/Growth Plan** • **SEP identified 4 key priority areas**: raising employability, education & skills; improving business competitiveness; transforming infrastructure & environment; improving transport infrastructure. • SEP identifies 10 leading sectors which it aims to prioritise in order to secure economic growth, jobs and productivity. These are divided into transformational sectors & enabling sectors. Transformational sectors have strong innovation focus: advanced manufacturing, building technologies, transport technologies, business services and environmental technologies. • **Growth Deal announcement:** £138.7m Local Growth Fund -	**SEP** • BC LEP identified the following strengths relating to innovation: - Density of employment in manufacturing sector providing a core skills base - The establishment of the BC Skills Factory & its impact to date: Skills Factory is a UKCES funded 2 year pilot project running across the BC. It is a LEPs business lead mechanism, aimed at addressing skills shortages in the HVM sector, growing the skills base for global requirements. It has also gathered intelligence on gaps and suitability of provision locally and nationally. It has, directly engaged with in excess of 150 businesses and brokered the provision of bite-sized courses to meet their skills needs. To date it has supported the take up of apprenticeships by 40 HVM companies and begun a programme of activity with schools to promote careers in high value manufacturing.

		£25.8m of new funding confirmed for 2015/16 and £77.6m for 2016/17 to 2021. • 13 schemes starting in 2015/16 to receive funding as part of growth deal agreement, with **3 of these having an innovation focus:** - Advanced Science, Engineering & Technology Centre: centre to up-skill local people in key growth sector - New Science, Technology & Prototyping Centre: expansion of Wolverhampton Science Park FAB KIT: investment in range of high value manufacturing capital equipment, available to small businesses. **2015 GD announcement:** extra £24m invested in the Black Country between 2016 and 2021. 3 projects announced, with 1 having explicit innovation focus: 1. The creation of a Light Rail Innovation Centre in Dudley which will specialise in prototype vehicle design and construction, as well as providing education, and research and development facilities to local businesses **EUSIF:**	• In relation to its 5 'transformational sectors' BC LEP identifies the following key features: - Transport technologies: 1,971 companies, 26,000 jobs, £1.5bn GVA - Environmental technologies: 38,000 jobs, £1.3bn GVA - Advanced Manufacturing: 3,307 companies, £2.6bn GVA, 66,000 jobs - Business Services: 8,259 companies, 74,000 jobs, £3.7bn GVA - Building technologies: 3,831 companies, 44,000 jobs, £0.9bn GVA

		TO1 (Innovation) ERDF allocation: £20m or 26% of ERDF total of £76m ESIF contains 4 priority themes, with 'innovation' appearing as one of these. Under innovation the ESIF identifies the following drivers for growth: 1. 5 transformational sectors with potential to generate an additional £14.5bn annual output and 70,000 jobs. 2. Proactive business engagement by the University of Wolverhampton, and its connections to wider knowledge base make it ideally placed as a gateway point for business / knowledge base engagement. 3. Plans in development to create a Black Country partnership with the Manufacturing Technology Centre in Coventry, enhancing the Black Country's knowledge assets. It also identifies the following barriers to innovation growth, requiring attention: 1. Weak levels of innovation in Black Country firms, with under-developed links to knowledge based institutions and under-investment by firms. 2. No strong guiding plan for investment in innovation using a smart specialisation approach. While there is a clear sector focus for investments, a more detailed smart specialisation plan for the Black Country is required (and is under development). 2 key strategic investment area are identified under the ESIFs Innovation theme:	

		1. *Increasing SME Demand and Capacity for Innovation*: To engage more businesses in knowledge transfer and innovation, develop links to wider HEIs and demonstrate the benefits of working with knowledge base partners. EUSIF notes there is scope for collaboration with other LEPs in this area*: 'It is expected that there will be collaboration in innovation support activity with the five other West Midlands based LEPs, building on the strong track record of close working, and potentially with other LEP areas as appropriate. Conversations already underway for cross-LEP initiatives and there is a regional network of innovation practitioners linked to Universities. This will be influenced by the results of the current smart specialisation study.'* 2. *Infrastructure for Innovation:* Investing in required capital to support new innovation and knowledge transfer opportunities, particularly linked to priority growth sectors. Scope for collaboration with other LEPs also noted under this area: *'It is expected that there will be cross-LEP working, particularly with the five other West Midlands based LEPs, ensuring that any infrastructure investments complement and add value to existing activity and infrastructure across the wider area. Conversations already underway for cross-LEP initiatives and there is a regional network of innovation*	

		practitioners linked to Universities. This will be influenced by the results of the current smart specialisation study.'	
Cheshire & Warrington	No innovation strategy/SMART specialisation document Approach to innovation set out in SEP, EUSIF, Growth Deal. Governance: No innovation board identified	**SEP/Growth Plan:** Growth Deal investment focused on 3 priority areas identified in SDP – **1 of which has innovation focus**: 1. **Supporting the expansion of science & innovation in the North West** through a new joint Life Science Investment Fund with Greater Manchester which will support new science start-up businesses. Investment in critical new equipment at the Thornton Science Park which will attract more business. Cheshire & Warrington LEP secured £142.7m from the Local Growth Fund. 9 projects earmarked for funding, with 3 having explicit innovation focus. 1. Life Science Investment Fund - Revolving Investment Fund to support growth in the life science business cluster in Cheshire and Greater Manchester. Although not exclusively focused on the AstraZeneca Alderley Park campus, this Fund will be instrumental in encouraging new start-ups and spin outs following AstraZeneca's departure to Cambridge by 2016. 2. Thornton Energy Demonstrator - Establishment of an energy systems demonstrator site, building on the significant national assets left by Shell to the University of Chester, that enables energy companies to test at	**EUSIF highlights following strengths/assets relating to innovation:** • A large private sector employment base, including world class companies • Strong innovation potential/assets • Above average levels of business start ups • High proportion of residents qualified to Level 4 and above • A well connected strategic location • Availability of sites for development • Key assets in the private sector and industrial research base include the Waters Corporation's new Mass Spectrometry (MS) Facility near Wilmslow, the National Nuclear Laboratories and AMEC Laboratories in Warrington, Birchwood Park Nuclear Cluster, Bentley Motors in Crewe, and the collection of firms forming the Cheshire Science Corridor • The area is in the top 10 in England in terms of the proportion of employment in high and medium technology production and the knowledge economy, well above major urban centres such as Greater Manchester, Leeds and Birmingham. • Home to two major teaching universities, the University of Chester and Manchester Metropolitan University (at Crewe), and hosts key sites for two leading research-oriented Russell Group Universities, with the Jodrell Bank Centre for Astrophysics of the University of Manchester, and

		scale new power saving and distribution technologies. 3. Skills Capital – Employer informed programme to address skills needs in engineering, energy, logistics, manufacturing, agri-tech and sports science. Focus on estate renewal and employer led business hubs. **2015 GD expansion:** extra £15.13m invested in Cheshire & Warrington between 2016 and 2021. 3 projects announced, none with innovation specific focus. **EUSIF:** ***TO1 allocation (innovation):*** £25.1m of ERDF or 37.9% of ERDF total of £66.3m ESIF contains 10 thematic objectives – **innovation appears as Objective 1: 'Strengthening research, technological development and innovation'.** *Aim of this thematic objective*: To drive diversification and enhanced competitiveness in the Cheshire and Warrington economy through investment in pervasive innovation, engaging organisations, workforces, and communities, spanning the private, public, and third sectors, in the exploitation of new technologies and knowledge. Specific objectives are:	University of Liverpool Veterinary School **EUSIF identifies a number of areas of potential smart specialisation for Cheshire and Warrington. These include:** • Research and development in natural sciences and engineering: encompassing a diversified and nationally-significant industrial base, with a range of key research institutes and operational centres. • Engineering and technical consultancy: with key strengths in nuclear and energy related industries, alongside a wide range of other technical engineering activities, with consultancy supporting manufacturing, production and service industries nationally, and internationally. • Automotive: with particular strengths in high-value research, engineering, and expertise in both niche and mass production (in particular in the automotive industries, and the associated supply chains). • Chemicals: drawing on the sub-region's long-standing legacy in chemical extraction and production, with the clear potential of a hydrogen fuel cluster in Runcorn (outside the LEP area but with strong connections to it), and emerging assets such as the Shell Technology Campus. • Financial services support and back-office functions: building on the critical mass of nationally and internationally recognised financial services firms already based in the area, providing expert support functions (ICT, legal, financial, operations etc.).

		• Building collaborative research between enterprises, research institutions, and public institutions. • Supporting businesses, including social enterprises, to commercialise research and development. • Investing in facilities and equipment supporting the collaboration and commercialisation activity sought under this Thematic Objective. 2 Strategic Activities are identified under the Innovation thematic objective: Strategic Activity 1: Support for smart specialisation collaborative research between enterprises, universities/research institutions, and public institutions, including: - Initiatives stimulating and facilitating productive innovation partnerships between enterprises and research institutions. - Initiatives specifically targeted to aid commercialisation of innovation in the 'Key Enabling'14, 'Great Eight'15, and 'Health-Science' technology fields, particularly in sectors of competitive advantage. Strategic Activity 2: Support for the commercialisation and enterprise of new products and business processes, including: - Initiatives enhancing the demand for new or improved services, processes and products (including 'pro-innovation' procurement policies in public and private sectors and innovations in	

		relation to climate change risk, resilience and mitigation). - Support for the involvement of SMEs in networks of innovative value chains and associated innovation partners. - Schemes providing practical, financial, and material support for the innovation process within businesses (including support for access to finance and access to markets). - Schemes stimulating and enabling graduate start-up and spin-out from Universities, Colleges, and research institutions as well as commercial spinouts. Strategic Activity 3: Investment in the development and upgrading of innovation space, facilities, and equipment with capability to serve as a platform or host for innovation and innovative relationships. This includes investing in associated green infrastructure, flood mitigation, etc. where this is integral to the development of innovation space and facilities.	
Coast to Capital	Docs: Commissioned report on innovation - published in 2013: 'Developing Networks of Innovation', by University of Chichester. Governance: No innovation board/sub-panel identified as part of LEP structure	**Innovation Report:** Undertaking by University of Chichester on behalf of the LEP. Review focused on establishment of Regional Innovation Systems (RIS) underpinned by two core components of Smart Specialisation and the creation of innovation friendly business environments for SMEs. The review undertook primarily desk based analysis of regional research strengths matched to UK technology	**Innovation Report** Identifies following key strengths relating to innovation: 1. 3 technology intensive research universities: • The University of Brighton. Links to Eight Great Technologies: Life Sciences; Regenerative medicine; Advanced materials; Environmental technologies; Synthetic biology. • The University of Sussex. Links to Eight Great Technologies: Life

		priorities and analysis of business profiles. It was further informed by regional priorities and the presence of existing networks and clusters of activity. Review identified following sectors as forming basis of a RIS strategy: 1. Connected Digital Economy including, creative digital media, software development, Big Data 2. Bioscience including Medical Technologies (Life Sciences) 3. Electronics potentially further focused on vehicle electronics and sensors 4. Environmental/Renewable Technologies **SEP/Growth Deal:** Growth Deal focused on 3 key priority areas as identified in SEP – **1 of which has innovation focus**: 1. Enhance business support and skills; 2**. Accelerate research and innovation**; 3. Invest in transport, flood defences and resilience £202.4m secured from Local Growth Fund 13 projects allocated funding as part of Growth Deal. 4 with explicit innovation focus: 1. Wood Fuel initiative with Forestry Commission – Sustainable use of primary natural resource to produce	Sciences; Regenerative medicine; Big data and energy efficient computing; Robotics and autonomous systems; Synthetic biology; Advanced Materials. • University of Chichester: Links to Eight Great Technologies: Life Sciences. 2. Presence of number of global companies with across range of sectors, some with their own research capability. Key sector strengths identified included: Bioscience including Medical Technologies (Life Sciences); Electronics with a potential focus on sensors and vehicle electronics; Connected Digital Economy including, creative digital media, software development, Big Data 3. A number of strong independent research organisations, for example Leatherhead Food Research; Campden BRI; The Blond McIndoe Research Organisation. 4. Leading centre for innovation and productisation (SINC) 5. A few strong sectors in enabling growth technologies; digital, electronics, medical.

		wood fuel as a renewable energy source and local building materials. 2. Growth is digital – 5G research, e-commerce skills, ultrafast fund and superfast broadband roll-out. 3. Advanced Engineering Centre – Collaboration between University of Brighton and Ricardo in a new Centre of Excellence to deliver leading automotive and emissions research. 4. Central Brighton and Preston Barracks Central Research Laboratory – A city centre mixed use regeneration project of a site to deliver new homes, office building, student accommodation, a library and academic buildings. Preston Barracks is a joint venture between University of Brighton, Cathedral and Brighton Council to create a new innovation hub to commercialise academic research and incubate high growth businesses, with new housing. **2015 GD announcement: extra** £35.8m invested in the Coast to Capital area between 2016 and 2021. 4 projects announced with 1 having innovation focus: 1. A new Engineering and Digital Technology Park at the University of Chichester site in Bognor, providing cutting edge skills to 500 students per year. **EUSIF:**	

		TO1 (INNOVATION) ERDF allocation*:* £7.2m or 24.9% of ERDF total of £28.8m EUSIF focused on 3 component areas, covering 6 thematic objectives. **1 of these component area with explicit focus on innovation: 'Innovative, growth-orientated, international businesses.'** 3 thematic objectives with strong innovation contained within this component: 1. Thematic Objective 1: strengthening research, technological development & innovation. 2. Thematic Objective 3: Enhancing Competitiveness of SMEs 3. Thematic Objective 4: Promoting shift to Low Carbon Economy in all sectors. ESIF states that support will be concentrated on high growth businesses in sectors where we the LEP has a clear competitive advantage: • Advanced Engineering; • Creative Digital and IT (CDIT); • Environmental Technologies and Low Carbon & Environmental Goods and Services • Financial and Business Services; • Healthcare, medical technology and life sciences. **City Deal** Innovation appears as a central component of City Deal funding. Under	

		the 5 agreed city deal projects, 1 has an explicit innovation focus: • Renovation and expansion of New England House, the focal point of Brighton's tech cluster, to create conditions for creative-tech businesses to grow more rapidly, and to put the cluster on the map as Tech City South. One of the anticipated outcomes is the creation of 1,300 direct jobs in creative-tech businesses in New England House.	
Cornwall and Isles Scilly	Cornwall Council developed Innovation Prospectus in 2011, which has been used to inform LEP thinking around innovation. Cornwall Council also produced 'SMART Specialisation Peer Review' in 2012 to inform post 2013 funding & development of SMART specialisation Strategy. EUSIF talks of 'emerging SMART Specialisation Framework' – no evidence of published SMART Specialisation document Governance: LEP has Knowledge and Innovation Board, which has overseen development of the Smart Specialisation Framework. The Board consists of LEP Board Members, representatives from the wider private sector, Combined Universities in Cornwall and 2 local authorities.	**SEP/Growth Deal:** Growth Deal focused on 5 key priority areas as identified in the SDP: Local EU programme management; Improving public transport; Delivering infrastructure to release growth sites and enable development; Increasing business engagement in schools; Supporting growth in key sectors. £48.9m secured from Local Growth Fund. 8 projects received funding allocation, none of which have explicit innovation focus, although strong focus on developing local infrastructure. **2015 GD expansion:** extra £11.3m invested in Cornwall and Isles of Scilly between 2016 and 2021. 5 projects announced, none with explicit innovation focus although 1 focused on enhancing broadband connections:	**EUSIF** The following strengths and assets identified in ESIF relating to its 5 key innovation markets: ***1. Agri-Tech:*** *Physical Assets:* a. Duchy College – one of the largest specialist land colleges in the UK, with previous investment in applied research facilities, dairy production, animal management and land based technologies b. Environment and Sustainability Institute – new facility on the Penryn Campus delivering world class research and knowledge exchange programmes. c. Food Innovation Centre – based at Duchy College, the Centre works with businesses to deliver innovative solutions across all areas of food production d. Climate and geography – warm maritime climate enabling early production of crops, fruit and vegetables

		1. Broadband: a project to take Cornwall and Isles of Scilly (C&IoS) from 95% to over 99% fibre broadband connected, cementing it as the best connected rural place in the UK. The £1m investment will unlock a further £6m of funding from other sources including BDUK and Cornwall Council. **EUSIF Programme:** **TO1 Innovation ERDF allocation: No £ split for TO1 available.** £295m or 78% of ERDF total (of £379.1m) spent on TO1, TO2 and TO3 combined. EUSIF sets out 3 strategic priorities – **one of which has key innovation focus – 'Future Economies**'. This has been divided into further 2 objectives:- *1. Future Economy 1* – to drive growth in region's economy through RD&I investment to support business base (existing and new) in integrating into the supply chains of key identified global markets where we can have a significant competitive advantage. ESIF notes that C & IoS emerging Smart Specialisation Framework has identified 5 key markets where C&IoS has, or can develop, a competitive advantage – & states these will be the focus of support under Future Economy 1 objective, and include: 1. Agri-tech 2. Digital Economy 3. E-health	e. Diverse agricultural land – with significant production of dairy and fruit and vegetables f. Marine environment – with sea on 3 of our 4 borders, we have a rich fishing and aquaculture heritage *Knowledge Assets:* a. Duchy College Future Farm – new dairy unit and research facility b. Duchy College Rural Business School – currently delivering the largest and knowledge exchange programme under RDPE in the UK c. Rural Business Research – the most comprehensive data collection and analysis resource for farm businesses in the UK d. Exeter University – research excellence in plant health, and emerging research expertise through the Environment and Sustainability Institute *Enterprise Assets* a. 25% of the workforce are employed in the agriculture and food processing sectors (over 12,000) b. Cornwall Agri-food Council – strategic partnership bringing together the public and private sectors c. 600 dairy farmers (131,000 dairy cattle – 6% of the national herd) with an estimated 120 farmers in a position to benefit from intensive research and innovation developments d. Cluster of food production and food processing businesses, actively involved in research and innovation. These include Trewithen Dairy, Ginsters, Tulip, WC Rowe, Riviera Produce, Winchester Growers and Rowe Farming e. Teagle Farm Machinery – the largest independent farm machinery manufacturer in the UK with a number of patented machines.

		4. Marine Tech 5. Space/Aerospace Activities identified for investment under this objective include: 1. Developing and supporting appropriate models that encourage research and innovation to develop business opportunities in the identified growth markets. 2. Undertaking collaboration with centres of excellence to support growth within, and exploit market opportunities 3. Making investments to build upon current physical and knowledge assets, maximise investments made under Objective One and Convergence and address identified gaps in research, innovation and knowledge infrastructure 4. Supporting an increase in higher level skills to underpin economic growth linked to identified Future Economy priorities *2. Future Economy 2* - to invest in activities in C&IoS with growth potential that develop as a 'green and marine' region. Key areas for support under this objective include: 1. Delivering low carbon economic growth 2. Sustainably and responsibly increasing generation and use of renewable energy 3. Supporting the development of technology and innovations to develop the transition to a low carbon economy	***2. Digital Economy:*** *Physical Assets:* a. Fibre optic broadband network – by 2014, 95% of C&IoS will be connected to the fibre optic network, with alternative technologies providing an uplift of speeds for the remaining 5% b. Academy for Innovation and Research – a new £8m investment providing the home for business research and collaboration for Falmouth University, specialising in the digital economy and sustainable design c. Pool Innovation Centre - an £11m innovation centre targeting digital technology businesses d. High performance computing – facilities at the Environment and Sustainability Institute (linking to the Met Office) *2. Knowledge Assets* a. Falmouth University – expertise in gaming (supported through an FP7 project and an ERDF graduate start up programme), digital design, digital media and digital creative. b. Exeter University – expertise in data science/ data analysis and high performance computing. c. Plymouth University – expertise in data security, programming (2000 computing graduates p.a.), digital creative and artificial intelligence. *3. Enterprise Assets* a. Rapid growth in the digital sector – between 2009 and 2014 employment has increased by 26%, with turnover increasing by 24% b. Over 1000 small and micro businesses in the digital sector

		4. Develop the renewable energy and environmental technologies sectors and supply chain in C&IoS 5. Use Smart Energy infrastructure to unlock and drive growth 6. Encourage the adoption of low carbon transport solutions 7. Invest in the responsible management of our natural environment that leads to economic growth 8. Implement innovative approaches to maximise sustainable growth for local communities and the local economy (including agri-food) 9. Implement innovative approaches to facilitate and mitigate harbour developments 10. Support an increase in higher level skills to underpin economic growth linked to identified Future Economy priorities *5 overarching projects under 'Future Economy' Investment Pillar identified for investment under ESIF:* 1. Geothermal Deployment: Investing in geothermal energy R&D and deployment in order to unlock the renewable energy, new jobs and green growth opportunities associated with C&IoS gaining and maintaining a leadership position in this emerging global cleantech sector. 2. Heat Networks Deployment: Investing in the deployment of a low carbon Combined Heat & Power (CHP) network(s), linked to at least one major	c. Cluster of world leading software and digital science businesses – these include Headforwards, Avanti, Altcom, Sullivan Cuff and Geoscience d. Cluster of globally competitive creative industries and digital creative businesses – these include Dogbite, TigerX, ikandi and Spider Eye. ***3. E-Health*** *Physical Assets:* a. European Centre for Environment and Human Health – research centre focussing on the links between human health and the environment; includes business collaborations, new product development and evidence based solutions b. Health and Wellbeing Innovation Centre – situated within a developing health cluster, the Centre offers support to new and expanding businesses in the health and wellbeing sector c. Extensive fibre optic broadband network – providing appropriate connectivity for individuals and businesses to benefit from e-wellbeing technologies. *Knowledge Assets:* a. Plymouth University – expertise in user led e-health, social robotics and computer aided diagnostics and dentistry b. Exeter University – expertise in electronic monitoring, mathematical modelling and social sciences c. University of Exeter Medical School Falmouth University – particular expertise in user interface design, digital design and smart systems

		Cornwall Council-led development &/ or place based regeneration initiative (potentially @ West Carclaze and/or Broadmoor Farm). Could also link to deep geothermal to enable heat sales & support the economic case for the deep geothermal build. 3. Climate resilient Infrastructure: Place-based infrastructure investments supporting business & community resilience, in response to climate risk and extreme weather. 4. Innovation Infrastructure: To develop appropriate innovation infrastructure to support new company incubation, grow on space and, potentially, bespoke support for business clusters delivering Smart Specialisation priorities. The infrastructure will add value to and build on the current Innovation Centres and appropriate business models will be developed, based on national and international best practice. 5. Marine Renewables Development: A capital fund to enable marine renewable device development and deployment in C&IoS. The fund could support infrastructure requirements of the sector, proof of concept, feasibility studies, consultancy, site investigation, achieving consents and licenses, fabrication, manufacturing, marine operations and installation and the incentivisation of demonstration zone take up.	d. Truro and Penwith College – working with BT Cornwall to develop new telehealth and telecare skills programmes c. Health and Wellbeing Board – Strategic partnership with a remit for e-health and e-wellbeing d. European Centre for Environment and Human Health – key staff in e-health *Enterprise Assets* a. BT Cornwall – strategic partnership between BT and Cornwall Council to deliver e-health and develop a national centre of excellence b. Health is the second largest contributor to the local economy, providing huge scope to identify new, cost effective models of delivery c. Cluster of internationally recognised companies working within the digital health sector – includes Carnego Services, Sullivan Cuff and Microtest d. Large adult care sector engaged in the e-wellbeing agenda ***4. Marine Technology*** *Physical Assets* a. Wave Hub - £40m offshore facility for the testing and deployment of offshore technologies FaB Test – fast, flexible, low cost solution for testing of wave energy technologies, components, moorings and deployment procedures. b. Marine Innovation Centre South West Moorings Test Facility Falmouth Marine School – provides technology and innovation solutions for the marine supply chain c. Falmouth Harbour – 3rd largest natural harbour in the world and one of the largest ship repair complexes in the UK – accommodating vessels up to 100,000 tonnes Plymouth University tank test facilities

			Knowledge Assets a. Plymouth University – expertise in marine management, marine engineering and hydrodynamics b. Exeter University – founder member of the Marine Renewable Energy Group, with expertise in wave prediction and energy conversion, marine operations and moorings and surface and subsea electrical systems Peninsula Research Institute for Marine Renewable Energy (PRIMaRe) - £12m joint venture between Exeter and Plymouth Universities to develop academic excellence and knowledge exchange. *Enterprise Assets* a. Concentration of research and innovation led companies operating in the offshore renewables field, including Mojo Maritime, Fred Olsen, RCH Marine Renewable and Seacore b. Device developers now using the Wave Hub facility to test prototypes; encouraging evidence that developers are moving from testing to deployment c. Concentration of marine technology companies in the Falmouth and Penryn area with a conservative estimate of at least 100 businesses in the supply chain, employing over 1,500 people; this is further evidenced by 'repair and maintenance of ships and boats' being the top sector by location quotient (2012) for C&IoS d. Globally competitive businesses in ship repair and ship building – including A&P and Pendennis (both named companies in the Strategy for Growth for UK Marine Industries') e. Private sector led research and development projects currently underway

			including new ship paint/anti-fouling products and green ship technologies. ***5. Space/Aero Space Assets*** 2 key assets identified:– a. Goonhilly Earth Station: seen by the UK Space Agency as a key national asset and is a fully operational satellite communications teleport. Strong academic links exist at Goonhilly, with Universities of Leeds, Oxford, Hertfordshire and Manchester all developing research and training programmes. b. Newquay Cornwall Airport (NCA): Newquay Cornwall Airport offers one of the longest runways in the UK and is able to support aircraft of any size. It has uncongested airspace and also a comprehensive air traffic control system. NCA is part of the Newquay Aerohub which has Enterprise Zone status.
Coventry & Warwick-shire	Documents: Report undertaken by Centre for Cities: '"Driving Growth: Supporting Business Innovation in Coventry and Warwickshire" forms basis of the LEPs innovation strategy and approach. Governance: No innovation specific sub-group. But CW LEP has established 8 business groups - each group is made up of experts in the relevant fields and is chaired by a leading local business figure, who in turn reports to a full board director. Groups include: -'Energy' Group: to develop a vision / strategy for a 'low carbon future'. Priorities of the Group are; Low Carbon Mobility,	**LEPs Innovation Report by Centre for Cities** Views twin opportunities for Coventry and Warwickshire to build on its specialisms in automotive and advanced engineering. The first is to build on inward investment and use existing assets as a magnet for global companies and their R&D facilities as firms increasingly recognise the importance of co-locating these activities. The second relates to supply chain development. Report notes that CWLEP and its partners need to address innovation barriers that businesses face and support the diffusion of knowledge and	**Key strengths identified in innovation report:** • Specialisation in automotive manufacturing: Institutions that are linked to the automotive industry - cornerstones of the innovation system of the region. These include large manufacturers who run their global operations from the area (Aston Martin and Jaguar Land Rover), private sector R&D specialists (Tata Motors European Technical Centre (ETC), MIRA) and university-based research and business support institutions (Warwick Manufacturing Group at the University of Warwick, Manufacturing Technology Centre, Coventry University).

	Retrofit of housing stock leading on Green Deal initiatives and Smart Networks. 'High Value Manufacturing': Opportunities presented by genuine supply chain collaboration and exporting are a strong theme. Access to finance and skills challenges are also a priority, helping businesses to become "investment ready".	ideas. Barriers identified relate to access to finance, skills and specialist labour, business support, and engagement in forms of open innovation. **Growth Deal/SEP** Growth Deal aimed at supporting local area's aspirations to build on its advanced manufacturing and engineering strengths by investing in: 1.New transport infrastructure 2. Driving innovation in advanced manufacturing and engineering through the provision of new R&D and business support facilities. 3. Supporting businesses to flourish through the provision of effective business advice and support. 4. Growing local skills and talent through investment in Further Education Colleges. £74.1m secured from Government's Local Growth Fund. 6 projects received funding, with one having an explicit innovation focus: - Provision of new Advanced Manufacturing and Engineering "Grow On" Space for small and medium enterprises at Ansty Park in Rugby. New facility to complement work of the Manufacturing Technology Centre already on site.	Centre for Cities analysis of LEPs innovation strengths used traditional measures of innovation (R&D and patents) in combination with broader measures from the Community Innovation Survey (CIS) and the Business Register and Employment Survey (BRES) to examine the nature of business innovation in the sub-region. Centre for Cities analysis compared CWLEP area to select comparator areas in addition to the regional and national averages. These were selected on the basis of location, size and sectoral composition, and include: Birmingham and Solihull, Leicester and Leicestershire, and the North East LEP areas. **Key strengths from this analysis:** • R&D indicators suggest that Coventry and Warwickshire's business base is among the most innovative in the country. Total R&D employment in private sector in the area is far higher in the sub-region compared to comparator LEP areas; it is almost two times higher than in Birmingham and Solihull despite being smaller in size. Expenditure on R&D is also far higher. Average total in-house R&D expenditure per business in 2010 was £15,000 in Coventry and Warwickshire compared to £2,500 in Birmingham and Solihull. • Businesses in the CWLEP area have been granted more patents in the last two years than businesses in the comparator areas per employee. The number of patents, another commonly used indicator, represents an output of

		2015 GD extension: Extra £15.3m invested in Coventry and Warwickshire between 2016 and 2021. 6 projects funded, with 1 having explicit innovation focus: • A new centre to deliver R&D activities developing new steel products that will service key sectors such as Automotive, Aerospace, Rail, Defence and Energy **EUSIF** **ERDF allocation to TO1 (innovation):** £19.6m out of £58.1m ERDF total (or 33.7% or ERDF total) EUSIF focusing on 9 thematic areas, including one focused on innovation. ESIF notes that 'the overall objective of the Research, Technological Development and Innovation theme will be to build capacity within the Coventry and Warwickshire area for the commercial exploitation of new ideas stemming from research and innovation. (p.10)' ***City Deal*** Supporting innovation related sectors has strong focus within CW City Deal. Key activities outlined include: 1. Growing small and medium enterprises and supporting the advanced manufacturing and engineering sector: City Deal will create a Business Support Clearing House for	the innovation process rather than an input. Coventry and Warwickshire performs better than comparator areas, with 15 successful patent applications per 100,000 employees in 2011. The national average is 10.7 per 100,000 employees. • Rates of patenting activity in Coventry and Warwickshire also stand out internationally. The CWLEP area ranked 136th out of 1,310 sub-regions internationally, with 176 international patent applications per million inhabitants in 2010, and in the top ten sub-regions in the UK. While the area performs well compared to counterparts in Italy and Japan, it falls some way behind the most innovative sub-regions in Germany and the US. • The manufacturing sector makes a disproportionately large contribution to R&D activity in the CWLEP area, indicating the strength of the automotive sector and its importance for the local economy. The service sector accounts for 5 per cent of private sector R&D expenditure in Coventry and Warwickshire, while nationally it accounts for 55 per cent of R&D investment. **Key strengths highlighted in EUSIF:** • Representation of employment in Advanced Manufacturing and Engineering, specifically motor vehicles, architectural and engineering activities, fabricated metal products, machinery and equipment, electrical

		all small and medium enterprises and will launch tailored business support programmes for the advanced manufacturing and engineering sector. 2. Providing Effective Business Support Programmes for Small and Medium Enterprises and the Advanced Manufacturing and Engineering sector. Included as part of this support, will be: - Innovation: Support provided through the Clearing House will increase uptake of national schemes such as innovation vouchers. In addition, the City Deal will provide funding grants to groups of advanced manufacturing and engineering small and medium sized enterprises to support the development of new products and services. A "Proof of Concept" fund will support universities, research organisations and businesses to undertake pre-commercialisation activities for new technologies. 3. Enhancing Academic Co-ordination with the Automobile Sector: Coventry and Warwickshire will establish the Midlands Automotive Engineering and Research Advisory Board. This will complement national efforts to ensure the UK remains at the forefront of the automotive research and development agenda.	equipment and other transport equipment. • High Location Quotient of Advanced Manufacturing and Engineering employment in all areas of Coventry and Warwickshire • 2 World Class Universities and a strong network of Further Education Colleges • Access to World Class Research and Development and Innovation Infrastructure including Coventry University, University of Warwick, Manufacturing Technology Centre and MIRA • Businesses on average invest more in innovation than comparator LEPs and against the UK average and generate more patents than comparator LEPs
Cumbria	No - no specific innovation strategy document available Governance: No specific 'innovation board' at LEP	**SEP/Growth Deal** Growth Deal funding focused on 4 key priority areas as identified in the LEP's Strategic Economic Plan – rationale for these 4 priority areas based on economic assets in the county	**SEP** SDP identifies following key strengths relating to innovation: • Employment strong in manufacturing and food and drink manufacturing.

		1. Advanced manufacturing growth 2. Nuclear and energy excellence 3. A vibrant rural and visitor economy 4. The strategic connectivity of the M6 corridor Cumbria LEP secured £26.8m from the Government's Local Growth Fund. 7 projects received funding, with **2 having an explicit innovation focus:** 1. An Advanced Manufacturing Technology Centre at Furness College to equip locals with the skills to take up the expanding opportunities at BAE and within the supply chain for major manufacturers. 2. Supporting the creation of the Nuclear Technology Innovation Gateway, an innovation and support centre for the nuclear industry bringing together the National Nuclear Laboratory, research activities from the University of Manchester and other facilities. **EUSIF** **TO1 (innovation) ERDF allocation:** £9m out of £46m ERDF total (19.5% of total) Key activities under innovation theme: 1. Supply Chain initiative for knowledge intensive Sectors: Local partners will work together to ensure that Cumbrian companies benefit from major business investments in the County through	• Number of internationally significant employers. • Two of the UK's largest industrial sites are located in the county, involving the nuclear industry at Sellafield in West Cumbria and the submarine shipyard operated by BAE Systems at Barrow-in-Furness. Other production units operated by multinational companies can be found throughout the county, including Pirelli Tyres, Nestlé, United Biscuits, Iggesund Paperboard, Kimberley-Clark, Heinz, Sealy Beds, GSK bio-pharmaceuticals, Innovia Films and Siemens sub-sea technologies. • World class expertise and skills base in nuclear, energy and specialist manufacturing. • Product strength in the agri-food sector linked to food and drink provenance.

		contracts and supply services. This will be achieved by developing a Supply Chain Initiative for Knowledge Intensive Sectors, working closely with the Manufacturing Advisory Service and UKTI and benefiting from their Opt-In offers. 2. Commercialising Innovative Technologies in Key sectors: support companies, particularly SMEs, to develop and commercialise new products and processes, and allow them to overcome the 'valley of death' problems of bringing products to market, through the delivery of a Commercialising Innovative Technologies programme, building on existing programmes, facilities and opportunities. 3. Nuclear Technology & Innovation Programme: stimulate a step change in local research facilities, working with the HE Institutions in order to support companies to get access to R&D, to develop new products and processes and to continue to raise Cumbria's profile nationally and internationally in terms of delivering world-class research. A Nuclear Technology and Innovation programme which links commercialisation of products to cutting-edge R&D in West Cumbria will create access routes for companies to new research and know-how, to support them in the development of new products and services.	
Derby, Derbyshire,	Docs: LEP has published an Innovation Action Plan.	**Innovation Action Plan:**	**Innovation Action Plan:**

Nottingham & Nottinghamshire	Governance: No innovation related sub-group/board identified.	Plan led by D2N2s University's. Evidence base collected through desk based base line review; innovation summit; business workshops; online survey. Action plan sets out D2N2s *overall aim* for innovation: 'To support a step change in innovation levels amongst D2N2 companies - particularly high-growth SMEs in priority sectors - ensuring that businesses can find out about and access innovation support through their preferred route.' Notes that this overall aim will be achieved through following 3 innovation objectives: 1. Business Support for Innovation - Provide flexible and tailored support for innovation-led start-ups and existing businesses in the D2N2 area, particularly SMEs with the potential for high-growth, to commercialise ideas for new products, services and processes, through: - Skills for Innovation, including via access to talent in the knowledge base - Opportunities in the knowledge base to exploit research expertise and technologies - including through the commercialisation of Intellectual Property – better to support business-led innovation. - Access to finance for Innovation to help businesses exploit their ideas, invest in necessary R&D and find a route to market.	*Following key features relating to innovation identified:* 1. The proportion of innovation-active businesses in the East Midlands was a little higher than the UK average over the period 2008-2010 (38.9% compared to 36.8%) 2. Of the innovation-active businesses, the proportion of product innovators in the region is above the UK average - 21.4%, compared to 18.9% - in England only the South-East has a higher proportion10. 3. Eight companies in D2N2 are in the top 1,000 UK companies by the size of their investment in R&D11. Rolls-Royce is the only company in the region that is ranked among the top 1,000 companies globally in terms of R&D spend. *Key innovation assets include:* 1. a number of large, well-established technology-based companies, with significant supply chains in the locality, particularly in Advanced Manufacturing; it has growing clusters of commercial activity in sectors that are developing new technologies, such as Bioscience & Medicine, Digital Content and Low Carbon; and it has other sectors whose competitiveness depends on finding innovative solutions, such as Food & Drink, Construction, Logistics and Visitor Economy. 2. Nationally important clusters – including in Transport Equipment Manufacturing centred on Rolls-Royce, Toyota and Bombardier in and around Derby, and in Life Sciences centred on BioCity, MediCity and Alliance Boots in Nottingham. 3. Many good examples of fast-growing SMEs, whose growth has been driven by innovation, e.g. Sygnature Discovery in Nottingham,

		2. Infrastructure for Innovation: Invest in physical and communications infrastructure that fosters and nurtures Innovation – ensuring that sites, facilities and equipment act as a platform, catalyst and host for Innovation and innovative relationships – and encouraging informed networks that celebrate and share good practice, enabling businesses to connect quickly and easily to sources of inspiration and support 3. Exploiting the Knowledge Base: Maximise the potential of the knowledge base in and around the D2N2 area as a source of inspiration for Innovation - building on local specialisms in technologies of national importance, linked to D2N2's priority sectors - and encouraging collaborations between businesses, universities and other institutions to exploit related expertise and enable adoption of new technologies, and to develop supply chains in these sectors **SEP/Growth Deal:** Growth Deal focused on 3 priority areas identified in SEP:- 1. Enabling innovation-led growth 2. Enhance transport, employment sites and housing 3. A D2N2 Skills Deal £174.3m secured from Local Growth Fund. 10 projects received funding, with 2 having a strong innovation focus:	Garrandale in Derby and EPM Technology in Draycott. 4. Strong centres of knowledge and expertise in the three universities. Home to 80,000 students. Mature university relationships with major employers, e.g. GlaxoSmithKline, Ford, Rolls-Royce, Bombardier, Toyota. In 2011/12, the universities' interactions with business and the wider community had a value of £92m15. Good fit between universities' research/technology capabilities and D2N2's priority sectors. Close relationships to national centres for R&D and Innovation, including Catapults and national trade associations.

		1. Bioscience Expansion, Nottingham – expansion of floorspace next to Biocity to accommodate growing firms and allow space for new start-ups 2. Infinity Park, Derby – Developing this important employment site through site access and remediation including flood alleviation. This investment will support the competitiveness of the local supply chain through local sustainable transport measures. It will also improve access to the local labour market **EUSIF** **ERDF allocation to TO1 (innovation):** £20.9m out of £104.4m ERDF total (20% of total) D2N2 has innovation as one of its thematic objectives. Following aim and objectives included under its Innovation thematic objective: Overall aim: Increase business competitiveness in the area's economy through investment in innovation, commercialisation and product development in key sectors and high growth companies, exploiting D2N2's research strengths and expertise. Objectives: 1. Building collaborative research between enterprises, research institutions, and public institutions. 2. Supporting businesses, including social enterprises, to commercialise research and development.	

		3. Investing in facilities and equipment supporting the collaboration and commercialisation activity sought under this Thematic Objective. **City Deal – Nottingham City Region** **Summary of Deal:** Innovation central theme in Nottingham City Region City Deal. Main features include: • Turn Nottingham's Creative Quarter into an incubator that will attract a cluster of high tech businesses and entrepreneurs. It will support the development of high tech firms in and around the Quarter through technology grants, a £45m venture capital fund and a 'Generation Y' pilot to encourage young graduates become entrepreneurs. • Creating 1,000 apprenticeships in and around the Creative Quarter. Also initiatives on infrastructure investment, transport and the low carbon economy.	
Dorset	Docs: No evidence of separate SMART specialisation/innovation strategy. EUSIF document discusses SMART specialisation and how it relates to the Dorset LEP. Governance: No evidence of any LEP sub-group/panel with direct innovation responsibility.	**Growth Deal/SEP** Focused on 4 key priority areas as identified in the LEP's Strategic Economic Plan: 1. Enabling growth in key housing and employment sites 2.Creating the conditions for growth 3. Supporting Dorset businesses 4. Growing the skills base **SEP/Growth Deal:**	**EUSIF:** **Summary of strengths relating to innovation:** • Very strong group of financial service companies and strong manufacturing base – marine, food and drink (and supporting supply chain), advanced manufacturing and engineering. • Large business base relative to size of population.

		£66.4m secured from Growth Fund. 6 projects agreed, with 3 having explicit innovation focus: 1. ODIAC – Funding to establish a research centre of excellence in orthopaedics at Bournemouth University, to grow Dorset's Orthopaedic Development and Innovation Accelerator Cluster (ODIAC) of innovative businesses in this field. 2. Bournemouth and Poole College Engineering and Advanced Manufacturing – New facilities for engineering and advanced manufacturing students to help close Dorset's high level skills gap in this key sector. 3. Bournemouth and Poole College Financial and Business Services – Refurbishment of facilities to equip the next generation of local entrepreneurs with the enterprise skills they need to succeed. ***Growth Deal Expansion Announcement 2015***: Extra £12.6m invested in the Dorset area between 2016 and 2021. 3 new projects announced, with 2 having innovation focus: 1. Provision of a joint business incubation centre to enhance the internationally recognised expertise of Bournemouth University and Arts University in the Digital and Creative industries sector. 2. Enabling Kingston Mauward College to invest in cutting edge equipment and	• Two Universities offering a range of undergraduate degrees in both technical and academic subjects. • Investment plans in existing FE colleges. • Road and rail connections to some major cities (e.g. Southampton and London) and access to Portsmouth and Southampton ports and international air travel from Bournemouth, Southampton and Exeter airports. **SEP:** SDP highlights local areas of growth potential shared with national priorities: ICT & Precision Instruments; Digital, Creative & Information Services; Financial Services & Business Services; Health & Social Care; Education & Research & Development; Advanced Manufacturing / Automotive & Aerospace. **Advanced Manufacturing / Automotive & Aerospace**: Sector: Currently employs around 15,400 people and contributes £800m to Dorset's economy. Dorset counts aerospace as one of its leading industries. Many of Dorset's aerospace companies are engaged in R&D, design and/or manufacture of many of the world's most significant civil aerospace and defence projects. Cobham, BAe Systems, Magellan and GA Telesis are examples of those companies based in Dorset and they themselves are supported by a large number of local supply businesses.

		infrastructure facilities to develop the capacity of business in the Agriculture Technology sector. **EUSIF** **TO1 (innovation) ERDF allocation:** £13.8m of £20.2m ERDF total (or 68% of ERDF total) Dorset LEP selected 3 investment priorities, of which 'Driving Business Growth and Innovation' is one. Following objectives contained within this its innovation theme: • Build collaborative research between enterprises, research institutions, and public institutions • Support businesses, including social enterprises, to commercialise research and development • Invest in facilities and equipment supporting the collaboration and commercialisation activity set out in the objectives above • Support SMEs and social enterprises to increase their use of broadband to broaden their product/service offer • Support an entrepreneurial culture across Dorset, reduce barriers to entrepreneurship and support new entrepreneurs • Provide high quality support to allow SME to grow	Due to its maritime naval history, Dorset is still very much at the forefront of companies holding R&D defence related contracts. Some of the companies involved in this particular aspect of work are Universal Engineering, Beagle, BAe Systems, Atlas Elektronik, QinetiQ, AB Precision and Lab Impex Systems. For the past three decades, Sunseeker International, the leading leisure boat manufacturer of some of the world's most luxurious motoryachts, has been based in Poole and has now expanded its manufacturing expertise to Osprey Quay, Portland. **Energy Goods and Services:** This sector currently employ around 3,500 people and contributes £173m to Dorset's economy. Dorset has key businesses working directly in renewable energy. **Digital, Creative & Information Services:** The sector employs around 7,900 people and contributes £349m to Dorset's economy. Dorset is an internationally recognised centre of expertise in animation, production, image manipulation, new media technology and content development. The UK's leading animation school – the National Centre for Computer Animation – is based at Bournemouth University, conducting internationally recognised research and pioneering computer-animated simulation programmes together with the International VFX Hub. The University has a Centre for Excellence in Media Practice and offers courses in broadcast media, interactive media, marketing, public relations and journalism. creative enterprises based in Dorset include

		• Support higher levels of SME exports and international business activity • Increase the economic contribution of key sectors – advanced and marine engineering and creative and digital, and other key sectors agreed by local partners. EUSIF highlights 2 areas of SMART specialisation relevant to Dorset: • Advanced Engineering and Manufacturing: Advanced engineering and manufacturing, including marine engineering is likely to involve cross LEP collaboration to ensure access to academic and scientific expertise and create the critical mass needed to support an innovation eco-system. • Creative and Digital Industries: Creative and digital benefits considerably from the expertise in the two universities, and there is sufficient expertise and a sizeable business base to drive a Dorset wide SMART specialisation agenda. **City Deal – Bournemouth and Poole** Emphasis on creating more balanced economy by boosting advanced manufacturing (particularly marine and aerospace) and digital and creative industries.	Bright Blue Day, The Emerge Group, White Lantern Film, P's in a Pod, Adido, 4T2 Multimedia, Framestore, Elvis & Kresse, The Girls and Mollie Regan Textiles. **Financial and Business Services:** This sector currently employ around 37,700 people in Dorset and delivers 35% of Dorset's GVA. There are some 2,200 finance and business enterprises in Dorset and the conurbation of Bournemouth and Poole has the second largest concentration of financial services in the South West. Key market leaders have contact centres and HQs in Bournemouth and Poole. These include JPMorgan, whose campus is based in Bournemouth and employs nearly 5,000 people from the local area and other major companies such as Nationwide Building Society, Barclays International, Bank of New York Mellon, RIAS, Pru Health, Teachers Assurance, Coutts and Co and Liverpool Victoria. **EUSIF** Highlights knowledge assets that Dorset has to support innovation: 1. Creative Industries: Bournemouth University and Arts University Bournemouth, including: • National School for Animation • Centre of Excellence for Media Practice • Centre for Digital Entertainment • International VFX Hub • Bournemouth Media Academy • AUB Media Academy

			2. Financial, Business and other Services: Bournemouth University: • Centre for Entrepreneurship • International Centre for Tourism and Hospitality 3. Energy: Nuclear Decommissioning Authority 4. Education: International College Sherborne 5. Agri-food: CEFAS 6. Environment: Game and Wildlife Conservation Trust Fishery Centre Freshwater Biological Association
Enterprise M3	Docs: LEP does outline its overall 'innovation strategy', with specific aims, on its website: http://www.enterprisem3.org.uk/innovation-strategy/ Governance: Enterprise M3 has a number of action groups which act as the delivery element of the partnership. No innovation specific group, but has one groups covering 'Enterprise Support'.	**SEP/Growth Deal** SEP and Growth Plan identified 4 priority areas – innovation 1 of these: 1. Supporting innovation and enterprise, growing the skills base, accelerating housing delivery, enhancing urban and rural connectivity. • Enterprise M3 specifies 3 key innovation and enterprise investment priorities as part of its SEP: -Innovation & Enterprise Centres: supplying incubation space & support services for high growth potential firms -Growth Hub: focussed & coordinated business & skills support offer, providing information & advice for businesses to start, grow and develop. -5G Arrow Project: LEP in cooperation with universities, HEFCE, TSB UKTI & other partners, to support cutting	**EUSIF** EUSIF highlights following innovation related strengths/assets: 1. High concentration of knowledge-based industries in the Enterprise M3 area i.e. in computing, digital media, defence, pharmaceuticals, advanced engineering, professional services, energy and the environmental sector 2. The Defence sector is highly important for the local economy and its supply chain affects a wide range of sectors that are highly significant to the local economy, including high value added and knowledge based industries. 3. There are 4 universities in the Enterprise M3 area (Surrey, Royal Holloway, Winchester and the University for the Creative Arts), as well as the Universities of Reading and Southampton, which sit close by. This puts the Enterprise M3 area in a leading position in terms of quantity and quality of the research produced and the opportunities for commercialisation and business development.

		edge technologies to capitalise on development of 5G Innovation Centre • SDP notes that LEP aims to support the creation of 200 new high growth companies, 8,000 additional jobs and £2bn of new export markets for businesses in the local area. **Growth Deal Announcement:** £118.1m secured from Government's Local Growth Fund. 11 schemes set to receive funding as part of the growth deal agreement, of which **two have an explicit innovation focus:** -5G Arrow Project: Development of a physical incubation and other space, as part of a joint project, led by Enterprise M3, across the Greater Thames Valley. To build on the area's world leading position as a centre of excellence in 5G technologies and research. -Enterprise M3 Growth Hub: Development of a Growth Hub that will provide a focussed and co-ordinated enterprise, innovation and skills support offer for businesses. **2015 GD announcement:** extra £29.9m invested in Surrey and Hampshire between 2016 and 2021. 4 projects	4. Alone, the University of Surrey and its Research Park contribute £1.2 billion to the national economy. 5. Surrey University is currently pioneering development of 5G telecommunications technology at its 5G Innovation Centre; the research centre to spearhead international research into the next generation of mobile technology. The Innovation Centre was awarded £35 million after a bid developed by the Centre for Communications System Research (CCSR) to the UK Research Partnership Investment Fund (UKRPIF), from a combination of the Higher Education Funding Council for England (HEFCE), as well as mobile operators and infrastructure providers keen to adapt their services for the future. 6. According to the Higher Education-Business and Community Interaction Survey (HE-BCIs) 5 universities in the Enterprise M3 area feature strongly in national league tables for income developed from commercial relationships with business, notably from SMEs. The universities of Southampton and Surrey occupy first and second places respectively in the survey for SME Income for Facilities and Equipment Related Services. 7. The Enterprise M3 area also has a strong tradition of translating internationally recognised research into world-class companies. Surrey Satellite Technology Ltd (now part of EADS Astrium): it was spun-out of the University of Surrey in 2000 and has gone on to become a £100 million per annum business, employing hundreds of people in the UK. To date the company has launched 39

		announced, with 1 having explicit innovation focus: 1. A new Business and Enterprise Centre and provision of over 6000square metres of commercial floor space to create new jobs and support local enterprise. **EUSIF** **ERDF allocation to TO1 (innovation)**: £6.3m of £21.1m ERDF total (or 29.9% of total) Innovation theme focused on following: supply chain development, leadership and management activities, new products and business processes and development of physical incubation space.	space missions, and is currently producing the 22 satellites in the UK for Galileo – Europe's version of GPS. 8. A number of initiatives in the areas already work/operate around the Triple Helix Model (business, academia, public sector). For example, Woking Borough Council's support for The McLaren Applied Technology Centre will influence the growth of an advanced engineering cluster in the area. The new centre will comprise of about 60,000 metres2 of workshops, prototype manufacturing and testing space, research and development equipment and offices. 9. Project to create a new purpose-built Innovation Centre at the Tannery Studios in Send (near Woking) was allocated £1.3m from the Growing Enterprise Fund 10. Royal Holloway University of London, industry and Enterprise M3 are working to develop an innovation centre that will advance the university's cyber security research and help support the creation of UK businesses that will take this world-leading research into global markets
Gloucestershire	Docs: No specific innovation/SMART specialisation strategy document identified. Governance: LEP has several sector groups with responsibility for key sectors, including: -advanced engineering & manufacturing -creative industries	**Growth Deal/SEP** GD focused on 3 key priority areas as identified in the LEP's Strategic Economic Plan: 1. Providing a highly employable and economically productive workforce that meets the needs of local businesses. 2. Attracting, retaining and developing successful businesses 3. Exploiting	**EUSIF** Highlights following strengths relating to innovation: • High concentration of high tech manufacturing firms. • High levels of self-employment • High business survival rates • Highly skilled workforce • Vibrant SME community

	-energy -ICT	opportunities to open-up new sites for development and providing the transport infrastructure to accelerate growth. Secured £62.5m from the Government's Local Growth Fund. 4 priorities received funding allocation, with 2 having explicit innovation focus: 1. The Growth Hub – providing businesses in target sectors with advice and skills support they need to grow and activities to improve awareness of career opportunities in STEM (Science, Technology, Engineering & Maths) subjects, apprenticeship take-up, graduate retention and start-up activity in younger entrepreneurs. 2. GREEN (Gloucestershire Centre of Excellence in Renewable Energy, Engineering and Nuclear Skills) – redevelopment of Berkeley power station to provide a STEM training centre. **Growth Deal Expansion 2015**: extra £15m invested in Gloucestershire between 2016 and 2021. 5 projects announced, with 2 having explicit innovation focus: 1. Support for fledgling agri-tech businesses – high tech incubation facilities at the Royal Agricultural University to support start-ups and promote innovation.	• University of Gloucestershire and Royal Agricultural University **SEP** Notes that LEP is in top three LEPs for employment within knowledge intensive manufacturing and services. LEP has highest percentage in all LEP regions of employees in high and medium technology manufacturing and have grown the most of any region in employment in these sectors. Key assets include: 1. Nuclear energy: such as Horizon Nuclear Power, a UK energy company based in Gloucester, developing a new generation of nuclear power stations to help meet the UK's need for stable and sustainable low carbon energy. 2. Aerospace: such as GE Aviation, based in Cheltenham, a world-leading provider of commercial and military jet engines and components as well as avionics, electric power, and mechanical systems for aircraft. It was ranked in Fortune's listing of the world's most admired companies in 2013. 3. Precision Engineering and medical instruments: such as Moog, a worldwide designer, manufacturer, and integrator of precision control components and systems, based in Tewkesbury. 4. Export Intensive: such as Renishaw, a global company with core skills in measurement, motion control, spectroscopy and precision machining which has operations

		2. Further additions to the planned Gloucestershire Renewable Energy, Engineering and Nuclear skills centre at Berkeley: - A new Cyber Security Training and Conference Centre to build Gloucestershire's skills base in this fast-growing sector. - An Advanced Renewable Energy Resource Centre delivering STEM skills development, experimental research and specialist business and domestic market support in renewables. **EUSIF:** **ERDF allocation to TO1 (innovation):** £1.7m – ERDF total not clear from documents. 8 thematic objectives targeted through ESIF, with innovation included as one of these. Overall innovation approach: Supporting the commercialisation of new ideas by strengthening links between universities and business, to support productivity growth. Rationale for approach: • Coordination failures between universities and businesses, positive externalities of R&D and innovation. • Imperfect information about market opportunities in growth sectors. • Innovation a driver of productivity growth needed to	in 32 countries and derives 94% of its sales from overseas markets.

		address Gloucestershire' relative decline. • Opportunities for growth in agri-tech and the knowledge base at the Royal Agricultural University. EUSIF identifies 3 specific opportunities to promote innovation and growth in the county: i) forging stronger links between businesses and the University of Gloucestershire through the Growth Hub; ii) capitalising on the knowledge base of the Royal Agricultural University (RAU) through a new Agri-tech Research Centre; and iii) through the GREEN flagship project and the opportunities in low carbon and nuclear sectors	
Greater Birmingham and Solihull	Docs: No formal S3 strategy/document identified, but LEP discusses its approach to S3 in its EUSIF document – plans for collaborative approach with other LEPs. Governance: No innovation specific sub-group identified.	LEP in process of developing more detailed S3 strategy, which will be developed collaboratively with neighbouring LEP – see extract from EUSIF below: *'Following an independently facilitated workshop in January 2014 with GB&S LEP Innovation partners, leads on other ESIF strands, and Innovation leads from neighbouring LEPs, a roadmap is being drawn up for the subsequent stages of an S3 process. Neighbouring LEPs are key in these discussions, since it is intended to develop aspects of the S3s collaboratively, starting with the advanced manufacturing sector which is so central to all the West Midlands LEPs. It is intended that the GB&S LEP*	**EUSIF – identified innovation assets/strengths:** • Key incubator assets such Birmingham Research Park and Innovation Birmingham Campus. • Highly active creative sector with a high concentration of digital companies. • Key research assets within universities including global excellence in cancer, photonics and physics. • An active Birmingham Science City (BSC)Partnership , bringing together universities with public and private sector partners • A range of Innovation demonstrators such as the new Aston University EBRI facility

		S3 will be completed by the start of the ESIF Programme, in order that all innovation investment decisions and progress monitoring are in line with the S3.' (p.49) **SEP/Growth Deal** GD focused on 3 priority areas identified in the LEP's Strategic Economic Plan: 1. Investing in growth in Greater Birmingham and Solihull; 2. Maximising the benefits of HS2; 3. Enhancing growth sectors, and supporting and growing businesses. Secured £357.4m from the Government's Local Growth Fund. 3 priorities to receive funding, 1 with explicit innovation focus: 1. Enhancing growth sectors, and supporting and growing businesses including new courses to improve skills capacity in the automotive supply chain and life sciences sector, a Solihull Aviation Engineering Training Centre to develop maintenance and repair skills, the Skills Excellence Hub in Birmingham for food technology, the Centre of Excellence for Advanced Technologies at Birmingham Metropolitan College, the Advanced Manufacturing Hub and a Life Sciences Campus. **Growth Deal expansion 2015**: extra £21.4m invested in the area between 2016 and 2021. 4 new projects announced with 1 having explicit innovation focus:	• Life Sciences research base and large concentration of Medical Technologies companies boosted by the Biomedical Innovation Hub on the Birmingham Research Park and the £24 million Institute of Translational Medicine at University Hospital Birmingham • Birmingham City Council exploring the use of its purchasing power to drive innovation • Innovation Birmingham; a digital hub connected to CISCO and other major technology companies • Significant locations for new technology/digital companies in the Jewellery Quarter, Digbeth, Solihull, Bromsgrove and other local centres. • Smart City Commission and Digital Birmingham Partnership bringing together key players to deliver better services • Universities experienced in using and exploiting new technologies – such as the University of Birmingham with its Digital Demonstrator and Aston University applying optical sensing technologies. • Good links to the Technology Strategy Board through collaborative research projects, KTPs etc. in universities and through partnership development through Birmingham Science City and Birmingham City Council. • Strength in materials and advanced manufacturing innovation with University of Birmingham linked to Rolls Royce and a partner in the Advanced Manufacturing Centre, part

		1. Developing new enterprise accommodation at the Innovation Birmingham Campus to support University spin-outs. **EUSIF** **ERDF allocation to TO1 (innovation):** £30m out of £219m ERDF total (or 13.7% of total) EUSIF focused on 6 priority themes with innovation featuring as one of these: Innovation priority focused on 4 key growth sectors of: • Life Sciences • Digital and Creative • Low Carbon • Advanced manufacturing This priority structured around 3 areas for intervention • Building collaborative research between enterprises, research institutions and public institutions • Supporting businesses to commercialise Research and Development • Physical infrastructure for innovation including incubation space for enterprises linked to research institutions **City Deal** The City Deal comprises five components: • GBS Finance; • Skills;	of national Advanced Manufacturing Catapult. University/Knowledge Assets - Research and workforce development strengths in key sectors: 1. Advanced Manufacturing • Materials (UoB) • Servitisation (Aston) • Design (BCU) 2. Life & Health Sciences • Cancer (UoB) • Neuroscience (Aston) • Translational Medicine (UoB) • Healthy Ageing (Aston) 3. Digital, Creative • Digital Media (BCU) • Data Analytics (Aston, UoB) • Media Arts and Technology (Staffs) • Social Media (Newman) 4. Business, Professional & Financial Services • Business Schools(Aston, UoB, BCU) 5. Low Carbon & Environmental Technologies • Bioenergy (Aston) • Hydrogen (UoB) • Sustainable Development (BCU) • Biomass (Staffs)

		• Public Assets; • Life Sciences; and • Green Deal. Life sciences component has specific innovation focus: Development of an Institute of Translational Medicine (ITM) to capitalise on Birmingham's leading position in life sciences and its unique assets as a location for clinical trials. The ITM will accelerate discoveries from the lab bench to patient bedside, enabling products to be tested and brought to markets faster, yielding major health and economic benefits. Pharmaceutical firms will be co-located with clinicians and academics and will have access to one of the largest patient catchment regions in Europe of more than five million.	
Greater Cambridge and Greater Peter-borough	Governance: LEP has 'Science Industry and Innovation' sub-group. Docs: No innovation/SMART specialisation strategy document identified, but detailed approach to S3 discussed in EUSIF document.	**Growth Deal/SEP** GD focused on 3 key priority areas as identified in the LEP's Strategic Economic Plan – 1 with explicit innovation focus: 1. Driving innovation and supporting business growth; 2. Improving transport connectivity to enable business and housing growth; and 3. Growing the skills base to support expanding sectors. £71.1m secured from Local Growth Fund. 10 projects funded, with 4 having explicit innovation focus: 1. New facilities for The Welding Institute (TWI), to support their	**SEP details strength classification of its key assets against Industrial Strategy Sectors and Great Technologies:** **Strength Classification of Industrial Strategy Sectors presence:** 1. Aerospace = Strong 2. Agricultural technologies = Strong 3. Automotives = no classification 4. Construction = Average 5. Information economy = Strong 6. International education = Strong 7. Life sciences = Strong 8. Nuclear = no classification 9. Offshore wind = no classification 10. Oil and gas = no classification 11. Professional and business services = Average

		expansion to the Alconbury Weald Enterprise Zone, bringing more high-skilled jobs, supporting growing businesses in high-tech sectors and acting as a further catalyst for growth at the site 2. Agri-Tech Growth Initiative – expanding an existing, highly-successful, programme that helps Agri-Tech businesses to develop and commercialise agricultural research and products, supporting supply chain development and upskilling in this growing sector 3. Cambridge Biomedical Innovation Centre – creating a new innovation centre to provide business space for small firms at the growing Campus next to Addenbrookes Hospital. 4. Haverhill Innovation Centre – a new centre on Haverhill Research Park to support business growth in the ICT, biotechnology and Agri-Tech sectors, established jointly with New Anglia LEP, building on both Partnerships' previous investments at the site. **Expanded Growth Deal announcement 2015**: LEP received £38m expansion of growth deal. 4 projects announced with one focused on innovation: 1. Creation of an Institute of Advanced Construction and a Highways & Civil Engineering Academy to create a new national centre for higher level construction skills, and a local centre to provide skilled labour for transport schemes.	**Strength classification of Great Technologies Presence** 1. Cell therapy = Strong 2. Digital economy = Strong 3. Future cities = no classification 4. High value manufacturing = Strong 5. Offshore renewable energy = no classification 6. Satellite technology = no classification 7. Transport systems = no classification 8. Energy systems = no classification 9. Precision medicine = strong (?) LEP Claims national and international strengths in Information and Communications Technologies (ICT), creative industries, bio-medical, low carbon and environmental goods, high value engineering and manufacturing: **Biotech and life sciences**: • cluster of nearly 300 companies including Napp Pharmaceuticals, Amgen, Bespak, Nestor and Medimmune • Addenbrooke's NHS Trust university teaching hospital • Cambridge BioMedical Campus, home of the new Medical Research Council Laboratory of Molecular Biology, Cancer Research UK and GlaxoSmithKline (and Astra Zeneca will be moving its global HQ and main UK research facility there in 2016, with the creation of more than 2,000 jobs.) **ICT and telecommunications** • internationally significant ICT, software and telecoms cluster employing nearly 50,000 individuals (inc. ARM, the world's premier semiconductor IP supplier and Autonomy, a University of

		EUSIF **ERDF allocation to TO1 (innovation):** £12.9m out of ERDF total spend of £32.3m (40% of ERDF total) 6 Investment Priorities selected as part of ESIF, including 'Strengthening research, technological development and innovation'. Investment sub-themes under this priority include: 1. Building collaborative research between enterprises, research institutions and public institutions. 2. Supporting businesses including social enterprises to commercialise R&D 3. Investment in strengthening research, technological development and innovation in EAFRD eligible areas 4. Physical infrastructure, e.g. incubation space. Following project activities identified: 1. Creating high quality innovation support for business based on expertise among medical technology clusters, e.g. medical technology incubator to identify potential commercial opportunities from innovation and provide assistance with commercialisation. 2. Creating sustainable prosperity through high value manufacturing. Support for the accelerated development and growth of high value manufacturing and advanced	Cambridge spin-out formerly (before being acquired by Hewlett Packard) the second largest pure software company in Europe. **Low carbon environmental goods and services** • Peterborough home to 335 companies and organisations with 6,000 jobs and a £600m turnover that anchors a much broader sector of firms and capabilities across the area. **Manufacturing, engineering and processing** • engineering firms with a global presence, such as Perkins (diesel engines); BAe Systems; and Marshall Aerospace • also strong capabilities along the A1 corridor from Huntingdon and in Kings Lynn. **Agriculture, food and drink** • strong and fast-evolving food processing and agribusiness sector and food technology (British Sugar, Premier Foods, Nestlé Purina, Bakkavor, and Produce World Group) • equine industry around Newmarket. **Logistics** • Peterborough strong logistics hub • IKEA, Amazon, Tesco and Debenhams all there **Water and energy** • Anglian Water (Britain's largest water and waste utility) and Cambridge Water companies are sector leaders • significant bio-renewables production companies across the rural economy. **Creative industries**

		technology / product-focussed early stage ventures and established SMEs. 3. Support service available to commercial companies to provide specialist support on evidencing value within the NHS structure; health economics and potential routes to market; and procurement guidance on selling into the NHS. 4. Creation of a rapid prototyping and precision engineering centre providing professional and technical services and support to the manufacturing and engineering sectors including electronics, composite materials, environment and green technologies, and food technologies. 5. Creation of hubs to utilise capital and intellectual assets of colleges (across energy, pharmacy, chemicals, engineering and digital technologies) in supporting innovation and product development in SMEs. 6. Innovation centre providing space to develop new products, support SMEs and entrepreneurship chains and promote collaborative R&D between academia and business. 7. Use of new and existing innovation facilities to develop skills from high-tech biotech to down-to-earth technical and support skills; and to encourage entrepreneurship. 8. Prototyping and innovation linking HEIs and FE colleges with businesses in the energy, pharmacy, chemical engineering and digital fields; and linking research to industry requirements needs.	• Technology-based creative companies turn over more than £1billion per annum in the area • key sub-sectors (publishing, software and computer gaming) are also the LEP area's most established creative industry clusters. • 10% cent of UK's computer games developers are within five miles of Cambridge city centre (Bauer Media, Cambridge University Press, Sony Computer Entertainment's Cambridge Studio, Supreme Being (urban fashion) and Jagex whose 'RuneScape' is the world's most popular, free massively multiplayer online role-playing game) • high level of international arts and cultural activity, corresponding to the international profile of local industry and business

		9. ESF to support development of intermediate, technical and higher level workforce and management skills in support of the priorities identified under this thematic objective. **City Deal:** Innovation central component of City Deal: "…to unleash the next wave of the "Cambridge Phenomenon", the cluster of high-tech firms that focus on biotechnology, software and electronics around Cambridge, many of which have links with Cambridge University. The aim is to spread the "brand" of Cambridge over a broader area by creating better links between the science and business parks (e.g. Babraham Research Campus), the city centre (where Cambridge and Anglia Ruskin Universities are based), strategic transport routes and key residential sites (including the new town development of Northstowe), as well as the Enterprise Zone at Alconbury."	
Greater Lincoln-shire	Docs: No innovation/SMART specialisation strategy document identified, but LEP produced number of sector plans to inform EUSIF, including: - Driving our Ambitions through Innovation - Advanced Telecommunications -AGRI food Number of reports commissioned to inform SEP, including: 'Opportunities for Innovation in GLs Traditional Industries.' LEP also produced 'skills reports'/sector plans to inform EUSIF, including:	**Growth Deal/SEP** GD focused on 2 key priority areas as identified in the LEP's Strategic Economic Plan – 1 with explicit innovation focus: 1. Enhancing transport connectivity, reducing congestion and enabling major sites for housing and employment 2. Investing in innovation and skills infrastructure to support business growth and enhance skills levels	**SEP** Identifies 3 core sectors where it claims it can grow UK plc, support the whole range of small, medium and large businesses that makeup its economy, and add real value to the government's industrial strategy. These include: agri-food manufacturing and engineering and tourism. Key assets relating to agri-food and manufacturing include: 1. agri-food: Greater Lincolnshire has more grade 1 agricultural land than any other LEP in England, producing/ processing over 12% of the UK's food supply, including more than 70%

	- AGRI-food sector; - Advanced Telecommunications; - Low carbon Governance: no sub-group/board specific to innovation identified.	£111.2m secured from Local Growth Fund. 6 priority projects announced, with 2 having specific innovation focus: 1. Boole Technology Centre – an Innovation Centre on the Lincoln Science and Innovation Park providing laboratory, workshop and office space, targeting high growth SMEs in advanced engineering and manufacturing. 2. Bishop Burton College - a new specialist land-based campus on the Lincolnshire Showground to increase skills levels in the agri-food sector. **Expanded Growth Deal announcement 2015**: £14.8M expansion of growth deal. 4 projects announced with 1 having specific innovation focus: 1. A new Agrifood centre of excellence in Holbeach to help Food Manufacturing businesses access research, innovation and higher level skills, supporting up to 120 jobs. **EUSIF** **Innovation Thematic Area Allocation within EUSIF:** 15m (out of £68.9m ERDF total) – 21.7% of ERDF total. ***N.B. Difficult to work our precise ERDF/ESF split from docs, so this figure is approximate.*** EUSIF document identifies 5 priority areas or 'Actions' to meet the LEPs vision. ESIF Highlights specific sectors which will be supported under each of these actions, with EU Thematic	of its seafood and 25% of its vegetables; the sector employs more than 68,000 people across the supply chain, with a diverse mix of businesses, including Cranswick plc, Greencore, Moy Park, Walkers and Young's Seafood, alongside a wide range of primary producers. 2. manufacturing and engineering: this sector contributes over £3.3bn (20%) of Greater Lincolnshire's output, employs over 43,000 people and accounts for 42% of our exports; Manufacturing/engineering strengths encompass power engineering, petrochemicals/chemicals, steel manufacture and motorsport engineering, with global businesses including Siemens, Total, Phillips 66, Tata Steel and Pilbeam Racing Designs.

		Objectives cutting across several of these. For example, innovation thematic objective 1 cuts across 3 out of 5 the LEPs Priority Action Areas. Innovation Sector explicitly contained within one of LEP's priority areas/actions - 'Actions to help Greater Lincolnshire adapt to the future.' LEPs vision under this action is to have: - "University-led research supporting key sectors; effective knowledge transfer and good quality education and skills development" - "Excellent digital communications and coverage; and a frontrunner in broadband" On innovation the LEP notes: 'The Greater Lincolnshire LEP will substantially raise levels of innovation by raising awareness, improving levels of support and access to it, and building strong relationships between the Research and Development services of Higher Education and the local economy (p.43).'	
Heart of the South West	Governance: No 'innovation' group, but has sub-groups covering innovation related activities, e.g. --Business Theme group -low carbon special interest group No 'SMART Specialisation/innovation strategy document – but LEP claims to have followed rigorous approach to SMART Specialisation – see following column.	**SMART Specialisation approach (noted in EUSIF – p.35):** Heart SW LEP said to have established its Smart Specialisation priorities through a process of *'entrepreneurial discovery'*, led by a working group on behalf of the LEP's Business theme group. Working group included: representatives from Local Authorities, 2 universities and universities SW and the Academic Health Science Network.	**SEP – KEY SRENGHTS/ASSETS RELATING TO INNOVATION:** LQ Performance against 11 sectors identified in the Government's Industrial strategy - shows strong cluster in relation to Aerospace and growing clusters in agri-tech and nuclear. Aerospace = Between 3-4 Automotive = Less than 1 Life Sciences = Between 1 and 2, up from <1 in 2008

		Group said to have engaged widely with the business community, relevant business networks, research organisations and other relevant stakeholders. 'Transitional' and 'more developed' transformational areas of economic activity identified through SMART Specialisation process: Transitional areas include Marine, Environmental and Agricultural Sciences and Healthy Aging. Core Transformational Areas of Economic Activity in the 'more developed' areas are: Aerospace and Nuclear **Growth Deal/SEP** Focused on 3 key priority areas as identified in the LEP's Strategic Economic Plan: 1. Enhancing transport connectivity across the area 2. Building on Hinkley C opportunities 3. Maximising productivity, innovation and employment £130.3m from the Government's Local Growth Fund. 3 priority projects received funding, with 2 having explicit innovation focus: 1. Hinkley Point C new nuclear power station - a range of investments in skills, innovation and vital infrastructure, including working in partnership with	Agritech = Between 2 and 3 Education = Less than 1, down from >1 in 2008 Information Economy = Less than 1 Nuclear = Between 1 and 2, up from <1 in 2008 Oil and Gas = Less than 1 Offshore wind = LQ not available – map does not indicate particular strength for HEART OF THE SW Construction = Between 1 and 2 SDP notes that Heart of the SW LEP is one of the worst performing on standard measures of innovation (p.49). *Knowledge assets:* • 3 universities (but none of the three universities are located in Somerset. • 11 further education colleges Heart of SW LEPs identified by Witty review for: • Plymouth – Nuclear (ranked 12th), Robotics (ranked 4th) • Exeter – Satellites (ranked 11th), Agri-science (ranked 15th) • Met Office – Aerospace (ranked 1) Satellites (ranked 7th)

		West of England and Gloucestershire LEPs on nuclear skills: - Bridgwater College and Hinkley Point Training Activities – delivering key skills for new nuclear build - Huntworth Transport scheme and Taunton station upgrade - Low Carbon Innovation Centre to support supply chain development 2. Maximising productivity, employment and innovation: - Growth Hub: building on the city deal and Regional Growth Fund provision, in partnership with Cornwall and Isles of Scilly LEP. - Exeter Science Park Environmental Futures campus with the Met Office - Plymouth Science Park Phase 5 - Somerset College STEM skills investment **2015 Growth Deal Expansion**: £65.2M expansion of growth deal. 8 projects announced, with 4 having explicit innovation focus: 1. Further funding for a Low Carbon Innovation Centre in Bridgwater, which will support the development of the Hinkley Point C nuclear power station. 2. Electronics and Photonics Centre, based at the White Rock Business Centre in Paignton, providing incubation for start-up businesses and highly specialised equipment for more developed companies.	

		3. The creation of a collaboration centre at the heart of the Met Office Environmental Futures Campus at Exeter Science Park, linked to one of Europe's most powerful supercomputers. 4. The delivery of Phase 2 of the Exeter Science Park Centre. **EUSIF** **Innovation thematic objective allocation of funding:** £16.3m out of £57.9m ERDF total – 28.1% of total Heart SW LEP selected 5 integrated activities to invest EUSIF resources, including: 'Maximising Innovation through transformational opportunities and Smart Specialisation.'	
Hertfordshire LEP	Governance: LEP has 'innovation and enterprise board'. No SMART Specialisation/innovation strategy document identified. But does outline detailed approach to innovation as part of SEP/EUSIF.	**SEP/Growth Deal** GD focused on 4 key priority areas identified in SDP: 1. Enabling flagship sites for housing and employment 2. Enhancing transport connectivity across the area 3. Growing the skills base 4. Growing jobs and providing support for key sectors in the LEP area £199.2m secured from the Government's Local Growth Fund. 10 projects funded, with 2 having explicit innovation focus: 1. Stevenage Bioscience Catalyst Phase 2 a project to accelerate the second phase of this facility which is	**EUSIF – innovation assets & strengths** *Private Sector R&D:* 2010, the department for Business Innovation and Skills (BIS) published the R&D scoreboard which benchmarks UK private sector R&D investment – 3 companies in Herst LEP located in top 25 1. GlaxoSmithKline – ranked 1st 2. Roche Products – ranked 19th 3. Eisai Europe – ranked 25th *Publically funded research base:* LEP said to have strong publicly funded research base around – with 'world-class cluster of life sciences: • the Royal Veterinary College, the University of Hertfordshire (including the schools of Life Sciences,

		driving innovation at the heart of UK bioscience. 2. Daniel Hall, Rothamsted – for improvements of incubator facilities on Rothamsted Research Campus. **2015 growth deal expansion**: £22.3m expansion of growth deal. 3 new projects announced, with 1 having explicit innovation focus: 1. Initiatives to strengthen the local skills base through the provision of new facilities including the development of a state of the art engineering design and innovation centre based in Stevenage. **EUSIF** **Allocation of ERDF finding to Innovation Thematic Objective**: 40% of total spent on innovation (£11.96m out of £29.90m ERDF total) *EUSIF Approach to innovation*: approach to supporting innovation will be delivered through the development of a business Growth Hub for Hertfordshire in partnership with the University of Hertfordshire. This approach involves the LEP co-investing with the University in the establishment of a central resource to support small and medium firms and would provide coordination and facilitation services to support SMEs based on an in depth analysis and understanding of individual business needs. The model would build on existing organisational structures where	Pharmacy, Health and Human Sciences, Postgraduate Medicine and the Medical Technology Innovation Centre), • the National Institute for Biological Standards & Control, • the UK Stem Cell Bank; and • Rothamsted Research *Knowledge Intensive Businesses* - density of knowledge-intensive businesses said to be a major factor in the County's economic performance reflected by comparatively high levels of output: • Between 2007 and 2008, the number of knowledge intensive businesses increased from 20,365 (38.9%) to 21,647 (40.1%). A density which is 3.5 percentage points above that of Great Britain *Evidence base from Witty Review* • Incidence of employment in key sectors identified within UK Industrial Strategy - Hertfordshire high employment Location Quotient in respect to life sciences • Herts LEP also has level of specialism (although a less distinct one and one that is much more similar to other LEP areas in the greater south east) in information sciences; professional and business services; and construction • Top 20 research organisations nationally as defined in relation to their contribution to the sectors set out in UK Industrial Strategy and/or the Eight Great Technologies: Herts LEP featured strongly in relation to three of these key areas - Life Sciences, Agri-

		possible and focus on the following main areas of activity: 1. Increasing the uptake of national and local schemes: facilitate a 'single conversation' with local businesses, raising awareness and uptake of both public and private sector support by improving coordination, marketing and signposting 2. Maximising the reach of national schemes: including 'amplification' – where local funding could be used to expand the provision of agreed national schemes (e.g. Technology Strategy Board, MAS, Growth Accelerator and UKTI) – and 'franchised delivery' – where agreed national schemes or assets could be delivered/provided from the Growth Hub. 3. Tailored business and innovation support: offer tailored support to business with a strong focus on areas of higher added value, including leadership and management training, investment readiness e.g. early stage seed finance, growth capital, bank lending etc. 4. Tailored trade and investment support: close links to export support, as a major growth driver 5. Stimulate the demand for innovation: establish an innovation champion to promote the benefits of innovation and provide support to companies looking to develop innovative products and processes including the availability of an Innovation Voucher scheme to encourage business engagement with	Science and Agri-Tech and Robotics and Advanced Engineering. Herts LEP produced 'Sector Value Proposition' overviews for 4 of its key innovation sectors. Key assets identified by Hearts LEP in these reports: 1. Life Sciences Cluster • Over 200 Life Science companies. • Almost 40% of Hertfordshire's centres of excellence are directly related to life sciences. Focus on pharmaceuticals and healthcare. • BioPark is a world class research and development centre located at the heart of the UK's life science cluster. With 6,000 sq. m. of ready-to-use chemistry and biology laboratories, specialist facilities, office accommodation and extensive conference and events facilities • BioScience Catalyst – is the UK's first and only open innovation bioscience campus. The park opened for business in February 2012. • The University of Hertfordshire offers a range of continuing professional development courses linked to the healthcare industry. The university also has 13 Knowledge Transfer Partnerships (KTPs). • One Nucleus is a membership organisation for international life science and healthcare companies, offering specialist events, teaching, help with purchasing, all with the aim of boosting competitiveness

		the universities and specialist research and technology organisations. 6. Increase the take up of technology: provide access to technology developments through a range of advice and financial support mechanisms to encourage early adoption.	2. Information Technology • University of Hertfordshire: Entrepreneurial University of the Year 2011 • IT research institutes: The Centre for Computer Science & Informatics; Research Centre for Applied Science & Technology (CAST); Institute of Engineering & Technology • Large ICT cluster - 4,250 ICT companies in 2012. HQ for over 35 companies with $1bn+ UK sales. 3. Creative Industries • The University of Hertfordshire was ranked in 2012 among the top four universities in the world for animation and visual effects. • Companies in Herefordshire include Aspyr Media Europe Ltd, Envision Media, Revive Corporation Ltd, Rising Star Games Ltd, TECMO KOEI EUROPE Ltd, Webcentric Multimedia Ltd, Zoo Games Entertainment Europe. • Wider software sector includes over 4,000 companies employing nearly 15,000 people • Film Studios: Warner Bros. Leavesden; Elstree Studios. 4. Advanced Manufacturing • Major players in Hertfordshire include: EADS Astrium (space), EADS Paradigm (defence communications, MBDA (weapons), and Global Invacom (satellite). • Presence of leading centres of excellence: Science & Technology Research Institute (STRI), Centre for

			Astrophysics Research (CAR), Centre for Atmospheric and Instrumentation Research (CAIR), Materials Engineering Research (MERL), Institute for Acoustics, Institute of Engineering and Technology. • Talent pool - nearly 80,000 people employed in ICT & Electronics & Transport Equipment in Hertfordshire. • Largest number of aerospace university students in England (outside London).
Humber LEP	Docs: No SMART specialisation/innovation strategy document identified. But ESIF document details steps LEP has undertaken towards identifying SMART specialisation sectors. See next column. Governance: No innovation specific sub-boar, but LEP has established 3 sub-boards in 2014, covering: -employment and skills; -investment and regulation; -business development	**SMART Specialisation Exercise:** EUSIF document claims that LEP has/or will follow recommended steps for identifying SMART specialisation: '[The] Humber either can, or as the new programme takes shape will be able to, provide evidence that the principles of a RIS3 process have been embodied.' It notes the following: **RIS3 steps Humber LEP has already undertaken/will undertake in future:** 1. Analysis of the regional context and potential for innovation: An innovation-specific workshop involving stakeholders from across the LEP area was delivered. 2. Set up of a sound and inclusive governance structure: The innovation related activity that takes place in the Humber under the ESIF 2014-2020 programme will be aimed at SMEs and sits within the 'SME Growth and Innovation Programme' (see Chapter One). This programme will be overseen by the SME Support Committee – a sub-group of the LEP Board.	**EUSIF** **Key innovation strengths identified:** 1. The Humber has a strong applied research base and a track record of innovation successes, especially through the University of Hull, e.g. Innovation Vouchers, Knowledge Transfer Partnerships and internships. 2. University of Hull specialisms which can be further developed including renewables, environmental and adaptive sciences, niche healthcare technologies, engineering, logistics, chemistry and digital technologies. 3. Presence of industry leading companies with R&D functions in the locality, e.g. BP, Smith and Nephew, Reckitt Benckiser 4. Strong innovation related performance in national surveys

		3. Production of a shared vision about the future of the region: Comprehensive analysis of the Humber economy has been undertaken to underpin the development of this strategy 4. Selection of a limited number of priorities for regional development: Through the analysis and consultation exercises undertaken in preparing this strategy, a limited number of innovation and research priorities have been identified as having the potential for smart specialisation. Resulted in LEP identifying the following smart specialisation options: • Renewable energy; • Chemicals; • Ports/Logistics; • Healthcare technologies; • Creative and digital; • Food processing. 5. Establishment of coherent policy mix, roadmaps and action plan: Each of the projects taken forward through the innovation Thematic Objective will have a detailed implementation action plan, providing comprehensive information about objectives, timeframes for implementation, funding sources, outputs and risks. These plans will be monitored by the SME Support Committee. 6. Integration of monitoring and evaluation mechanisms: Comprehensive monitoring and evaluation will be a key feature of the	

		Humber's approach on the 2014-2020 programme. Where appropriate this will include peer review by LEP areas that have been involved in similar or related types of activity or who are recognised as leaders in a particular field **Growth Deal/SEP** Focused on 4 key priority areas as identified in the LEP's Strategic Economic Plan: 1. Creating the infrastructure that supports growth, including transport and housing; 2. Supporting businesses to succeed; 3. Creating a skilled and productive workforce; 4. Stimulating economic development through further investment in flood and coastal risk management. £103.7m secured from the Government's Local Growth Fund. 8 projects allocated funding, none having an explicit innovation focus, although 1 focused on skills enhancement of workforce, in innovation related sectors: 1. Package of Skills Projects supporting the Humber's plans to become a Centre of Excellence for Energy Skills - projects include; - CATCH in North East Lincolnshire to develop a shared facility for use by multiple providers for specialist offshore wind training; - Creation of a new build logistics learning centre by Grimsby Institute; and	

		- Extension of Goole College's vocational skills workshop and associated classroom refurbishment. **2015 growth deal expansion:** £9.9m extra investment in the Humber between 2016 and 2021. 4 project announced for funding, none having an explicit innovation focus. **EUSIF:** **Allocation of funding towards TO1 (Strengthening research, technological development and innovation):** £5.14m out of £52.23m ERDF total (or 9.8% of ERDF total) Humber EUSIF structured around 5 'strategic programmes' with an 'SME Growth and Innovation Programme' featuring as one of these. *Summary of SME growth and Innovation Programme:* 'A comprehensive package of support to build the growth capabilities of SMEs, to foster a more entrepreneurial culture, stimulate innovation and build the market in low carbon goods and services.' 4 of the 5 Humber LEP Strategic Programmes cover more than one Thematic Objective. For example, the 'SME Growth and Innovation Programme' is covered by 4 thematic objectives: - TO1: Strengthening research, technological development and innovation	

		- TO2: Enhancing access to, and use and quality of, Information and Communication Technologies - TO3: Enhancing the competitiveness of Small and Medium Enterprises TO4: Supporting the shift towards a low carbon economy in all sectors Under TO1 the following activities are planned to be funded by the LEP under its 'SME growth an innovation' strategic programme: 1. Making low carbon venture capital available, via the Low Carbon Innovation Fund, to support growth in local companies that are developing low carbon products or services or improving their processes to reduce their operational CO2 outputs. 2. Positioning the Humber as an international centre of excellence in offshore wind training and research and development. This will involve collaborative partnership arrangements involving education providers (HE and FE), industry and developers. 3. Further developing our strengths in specific healthcare niches by more intensively linking the academic and knowledge transfer agendas benefiting the Humber and wider region. This would include enabling companies to access HE knowledge, skills and expertise to develop technologies and solutions. 4. Supporting the ongoing identification and development of new opportunities to exploit innovation as markets continue to develop over the course of the programme period.	

		Innovation funding allocation: **Humber LEPs '**SME Growth and Innovation' strategic programme allocated £27.67m out of programme total of £87.67 (31.5% of total) – ERDF funding pulled from 4 TOs. **City Deal:** Under 'Business and Innovation Support' the City Deal agreement for Hull and the Humber notes the following activities: 1. Delivery of the Humber Growth Hub programme, linking with associated proposals to reduce youth unemployment and improve the delivery of skills provision. 2. Engaging with over 3000 businesses and providing intensive support to 500 the programme represents a step change in the delivery of business support for the Humber. The programme will create approximately 400 jobs.	
Lancashire LEP	Docs: No SMART specialisation/innovation strategy document identified. Governance: no sub-board/group identified with specialist 'innovation' remit	**Growth Deal/SEP:** GD Focused on 4 key priority areas as identified in the Local Enterprise Partnership's Strategic Economic Plan – 1 explicit innovation focus: 1. Releasing Growth Potential - by strengthening transport connectivity to create jobs and enable housing	**EUSIF** On innovation, the ESIF highlights the following strengths and opportunities in Lancashire: • Boosting Business Growth and Innovation • Significant cluster of excellent FE Colleges: Lancashire is home to Lancaster University, University of

		development; 2. Supporting the renewal and growth of Blackpool; 3. Growing the local skills and business base; and *4. Innovation and manufacturing excellence.* Lancashire LEP secured £233.9m from the Government's Local Growth Fund. 12 projects originally agreed to be joint-funded, with 1 having explicit innovation focus, and another focused on improving skills/training facilities in innovation related areas: 1. FE Skills capital – programme of investment in Energy and Engineering facilities, estate renewal of poor quality college accommodation 2. Lancaster Health Innovation Park - will establish new facilities and a test space for companies carrying out product and service development in collaboration with the university and healthcare bodies **Growth Deal Expansion 2015:** extra £17.2m invested in Lancashire between 2016 and 2021**.** 6 project announced for funding, with 2 having innovation related focus: 1. The Engineering and Innovation Centre at the University of Central Lancashire (UCLan) campus in Preston. It will deliver an Engineering Transformation Programme to enhance UCLan's capabilities in knowledge exchange, training and research.	Central Lancashire (UCLan) in Preston and Burnley, and Edge Hill University in West Lancashire. It also supports the largest campus of Cumbria University which is in Lancaster • World leading research and teaching linking to innovation in key growth sectors • Established Lancashire Business Growth Hub (BOOST) in support of GVA growth • Capitalise on Lancashire's world class innovation assets to share innovations with commercial potential, promote the commercialisation of R&D and support research and university led spin out opportunities • Build upon the Lancashire Business Growth Hub to deliver business support services to high growth companies and promote enterprise and entrepreneurship ESIF highlights close relationship between Lancashire's key industrial and national priority sectors: Key Lancashire Sectors identified: • Advanced Manufacturing • Aerospace and Aviation • Automotive Manufacturing • Creative, Digital, ICT and New Media • Energy and Environmental Technology • Business and Professional Services • Nuclear, Low Carbon, Automotive, Visitor Economy, Rural Growth & Shale Gas

		2. Making Rooms - Lancashire's first FabLab, a fabrication laboratory which will offer companies, educational establishments and individuals open access to Additive manufacturing technologies along with on-site technical expertise. **EUSIF** **ERDF allocation to TO1:** No breakdown available per TO. Lancashire's ESIF highlights 6 themes under which it will prioritise its investment/activities. 1 of these has an explicit innovation focus: 'Theme 2 – Boosting Business Growth and Innovation' (p.26) Under its 'Business Growth and Innovation' theme Lancashire LEP proposes to tackle the following: -Lancashire needs to address its GVA deficit compared to the rest of the UK. The ESI Funds will be deployed to encourage the formation of dynamic new enterprises, the expansion of existing businesses and to support innovation, including the dissemination and adoption of new technologies. -Specific support will also be introduced to develop the Lancashire's innovation assets of Lancashire and to secure access to these resources by SMEs. This will support key actions to strengthen Lancashire's world-class centres of industrial, technological development and research excellence	**EUSIF document notes**: "In addition to major international companies including BAe Systems, Rolls Royce, Toshiba-Westinghouse and Aircelle, it has an excellent cohort of dynamic, diverse and innovative SMEs. These businesses support a range of supply chain activity and contribute substantially to Lancashire and UK productivity. By focusing on key economic strengths such as Advanced Manufacturing and Engineering, opportunities such as Renewable Energy and competitive advantages such as Shale Gas, Lancashire can re-emphasise its position as a National and International economic leader and address gaps with competitor locations (p.6)" On its key sectors the ESIF notes the following strengths and assets: 1. **Advance Engineering and Manufacturing**: Manufacturing employs almost 90,000 people and accounts for more than a quarter of Lancashire's £23 billion economy. The UK's Aerospace industry has its single largest concentration in Lancashire, employing directly and indirectly as many as 28,000 people in 120 companies. The Lancashire LEP has approval for a Lancashire Enterprise Zone (EZ) solely focused on Advanced Engineering and Manufacturing (AEM), based on the sites at Samlesbury and Warton and anchored by BAe Systems. **2. Energy, Low Carbon and Renewables**: Energy, Low Carbon, Renewables industries represent a key growth sector for both the UK and Lancashire, where it employs over 37,000 people. Lancashire's assets include four

		by working with Lancashire's HEI cluster to maximise knowledge transfer and commercialisation of Intellectual Property. **City Deal** Main focus on infrastructure and housing related projects.	Advanced Gas Cooled Reactors in Heysham and an advanced nuclear fuel manufacturing facility at Springfields (Toshiba-Westinghouse) near Preston. **3. Advanced Chemicals and Polymers:** Chemicals industry large sector in Lancashire, employing 5,700 people. As well as a base of indigenous companies supplying intermediate and final products, several multi-nationals also have a presence in Lancashire. For example, Asahi Glass Chemicals is one of the only two production sites in the world for TEFLON derivatives used in industry. **4. Creative and Digital:** Creative and Digital technologies and businesses are central to Lancashire's future success as a place to live, trade and invest employing over 22,000 people. As a key growth sector for the Lancashire economy, there is an opportunity to build upon existing capacity and skills. The diverse company base ranges from large Telecoms PLCs to niche software firms and university spin outs. Additional sectors include design and branding, film media and broadcasting, publishing, PR and marketing.
Leeds LEP	Docs: Has innovation/SS strategy document Governance: Boards supported by expert panels, responsible for overseeing policy development and project delivery in specific areas. This includes a 'Business Innovation and Growth Panel'	**Innovation/SMART Specialisation strategy:** • Leeds LEP has published an innovation/SMART specialisation strategy to accompany SEP and SIF • Innovation central to Leeds LEP vision: *'To unlock the potential of the City Region, developing an economic powerhouse that will create jobs and prosperity. Innovation has a critical role to*	**Innovation assets/strengths identified in innovation strategy:** Strategy notes that 6 key sectors have been identified by the LEP for priority attention: financial, professional and business services; advanced manufacturing; health and bioscience; creative and digital; food and drink; and low carbon & environmental industries.

		play in helping the City Region economy achieve these objectives and must be embedded in everything we do' (Innovation Strategy, p.6) • Leeds LEP set itself 3 priorities for innovation action in the city region, as part of the Innovation Plan, detailing key objectives, critical action areas, target beneficiaries and outcomes for each priority: 1. Driving up innovation appetite across the city region 2. Stronger innovation performance 3. New sources of innovation **Growth Deal**: Growth Deal funding focused on 3 priority areas identified in Leeds CR SEP: 'Improving transport connectivity, accelerating housing growth and town centre regeneration; developing a skilled and flexible workforce; Supporting growing business and promoting resource efficiency.' £572.9m secured as part of Government's Local Growth Fund. 12 projects received funding allocation, with 5 having a strong innovation focus: - Skills capital programme – Investment in further education colleges and training providers that will support sectors which are likely to generate the largest contribution to economic growth, as well as	**1. FINANCIAL, PROFESSIONAL AND BUSINESS SERVICES** The financial, professional and business services sector is the largest of the City Region's priority sectors, with a total of 256,000 jobs in 2012. **2. HEALTH AND BIOSCIENCE** Although it is the smallest of our sectors in terms of employment (36,000 jobs), Leeds City Region has a concentrated base of health and bioscience R&D activities. In particular, City Region employment within this sector is most highly concentrated in human health activities (20,000 jobs), a sub-sector in which we have a LQ of 1.1. **3. CREATIVE & DIGITAL** Creative and Digital is Leeds City Region's second largest priority sector, with a total of 72,000 jobs in 2012. Although the sector's location quotient does not indicate a level of specialisation above the national level, employment has increased by 13% since 2009 (8,200 additional jobs), surpassing the national trend (4% increase). **4. ADVANCED MANUFACTURING AND ENGINEERING** This is a strong sector for Leeds City Region, with a total of 29,000 jobs in 2012. Strong concentration of this sector in Leeds City Region (LQ =1.1) and have experienced high levels of employment growth since 2009, increasing by 18%. **5. LOW CARBON & ENVIRONMENTAL INDUSTRIES**

		ensuring a world-class learning environment for young people. - Business Growth Programme – Funding that will provide for capital grants for businesses. This will increase commercial lending and equity, and make a valuable contribution to work on supply chains, innovation and inward investment - BioVale, York – Innovation cluster for biotechnology, focusing on the development of high value chemicals, natural products, next generation biofuels and bio-waste valorisation. A joint project with the York, North Yorkshire and East Riding Local Enterprise Partnership. - Energy Hub - Specialist vehicle responsible for the development of a pipeline of new energy infrastructure projects (including energy efficiency, energy generation, supply chain and distribution and storage). - Resource smart business support – tailored support to small and medium sized enterprises to reduce resource costs and increase productivity and competitiveness. **2015 GD announcement: extra £54.6m invested in Leeds City Region between 2016 and 2021.** 4 projects announced with 2 having innovation focus: 1. Innovation and Enterprise centres at the Universities of Huddersfield and	The low carbon & environmental industries sector is the second largest priority sector in the City Region. In 2012 Leeds City Region had 39,000 jobs in this sector with an estimated growth of around 18% since 2009, compared to a 2% increase at the national level. **Leeds City Region key assets against 8 Great Technologies (outlined in innovation report):** **1. Advanced Materials:** • The University of Leeds ranks 8th in the UK for Advanced Materials research and is home to the Centre for Molecular Nanoscience. • Proctor and Gamble signed a strategic research alliance with Leeds University in October 2013 to develop new products in the area of materials and particles. • The Nanofactory located in Leeds also supports partnerships between universities and the private sector in micro and nanotechnologies. This is further complemented by the EPSRC Centre for Innovative Manufacturing in Advanced Metrology based at the University of Huddersfield, which is a national centre of excellence with significant automotive industry engagement. **2. Agri-Science:** • University of York ranks 4th in the UK for Agri-Tech research. Linking its strength in environmental and bio-renewable technologies Science City York has launched the York

		Leeds, supporting advanced manufacturing, health and medical and digital and creative sectors 2. A Decentralised Energy programme, enabling large scale energy investments which exploit new resource smart technologies. **EUSIF:** **ERDF allocation to TO1 (innovation):** £28.47m out of £170.82m ERDF total (or 16.7% of ERDF total). ***City Deal:*** "Will aim to transform the city region's job market with progress on two fronts - a long-term ambition to move to a 'NEET-free' Leeds City Region and to shape the skills investments of Government, employers and individuals to align with real growth sectors; create a transport fund to unite Leeds and Manchester City Regions; create a Leeds City Region Investment Fund; increase exports and promote inward Investment; deliver a much more business-friendly planning system; become the exemplar UK low carbon city region in non-domestic retrofit, low carbon business and sustainable, low carbon design.	Environmental Sustainability Institute (YESI) which includes the Initiative for Agri Food Resilience, the Centre for Novel Agricultural Products (CNAP), the Centre for Crop Protection (CCP), and the Bioscience Technology Facility. • The BioVale scheme is currently being developed in collaboration with industry by the Biorenewables Development Centre, the Centre for Novel Agricultural Products, and the Green Chemistry Centre at the University of York. BioVale will be a major asset and focal point of industrial engagement between the University of York and FERA aimed at building a broad based innovation hub for the bio-based economy in the city-region. **3. Big Data:** • The University of Leeds ranks 1st in the UK for Big Data research and the University of York ranks 1st in the area of Information Economy. Big data is a hugely important across other Leeds City Region research strengths and sectors including life sciences, bioinformatics and transport. • The University of Leeds was awarded £6 million from the Medical Research Council and £5m from the Economic and Social Research Council in February 2014 to fund a Consumer Data Research Centre that is jointly with University College London. The Centre will be a national resource that will make data, routinely collected by business and local government organisations, accessible to

			academics and offer new Masters-level learning to address national skills shortages in big data analysis. **4. Regenerative Medicine:** • Welmec is a Centre of Excellence in Medical Engineering funded by EPSRC and the Wellcome Trust which is developing new ways to extend human joint and cardiovascular health, and so improve quality of life, for '50 active years after 50'. • The Innovation and Knowledge Centre Regenerative Therapies and Devices (IKCRTD) at Leeds University provides real commercial engagement and collaboration between academia, industry and the NHS to accelerate the commercial development of new medical technology products and services. **5. Robotics:** • National Facility for Innovative Robotic Systems at University of Leeds announced in July 2013 is a £4m national facility which will make the University a world leader in robot design and construction supported by the Engineering and Physical Sciences Research Council. **6. Satellites:** In February 2014 the University of Leeds was awarded £180k from NERC to enable researchers to expand a processing facility for radar data from the ESA satellite Sentinel-1, due to be launched in March.
	Docs: No innovation strategy document identified	**Growth Deal/SEP**	**SEP** **SWOT analysis reveals following strengths and assets:**

Leicester and Leicestershire LEP	Governance: LEP has 3 sub-boards supporting the main board. These include a 'people', 'place' and 'business' sub-board.	Focused on 4 key priority areas as identified in the LEP's Strategic Economic Plan: 1. Enhancing transport connectivity, reducing congestion and enabling the development of major sites for housing and employment 2. Investing in skills infrastructure and business support to deliver skills and support that meets employer needs 3. Extending the availability of superfast broadband across the city and county 4. Investing in flood risk management to reduce the risk to homes and businesses in Leicester. LEP secured £80m from the Government's Local Growth Fund to support economic growth in the area. 9 projects announced for funding, with 1 having an innovation related focus: 1. MIRA Partnership Engineering Training Centre Enterprise Zone - Transport Engineering skills training facility to be delivered jointly by MIRA, North Warwickshire and Hinckley College, University of Leicester and Loughborough University this will provide significant training places each year to address skills shortages in the sector and to increase the number of skilled engineers. **Growth Deal Expansion 2015:** Extra £20.3m invested in Leicester and Leicestershire between 2016 and 2021. No new projects with explicit innovation focus.	• 3 universities with some areas of global expertise contribute significantly to local GVA and bringing innovation, R&D, and skills to local businesses: University of Leicester Loughborough University; De Montfort University • Strong international and national R&D networks and access to enabling technologies e.g. ICT/digital media/ and big data • Expertise in space science, physics, medical research, green technology, Earth sciences, innovative manufacturing, engineering, design, heritage and creative industries and management. • Low carbon economy research e.g. in energy efficiency, renewable energy, sustainable construction, waste management, with Energy Technology Institute a major asset • High concentrations of manufacturing employment (14% of jobs in LLEP area, vs 9% in England)

		EUSIF **ESIF focused on 7 Thematic Objectives, with innovation (TO1) included as one of these.** **ERDF allocation to innovation TO1:** £10m out of £54m allocation (18.5%) Indicative activities identified under TO1: • Promoting the value of universities & FE sector to SMEs by building innovation collaborations between businesses of different types and across sectors to ensure SMEs can access the University/College expertise, technology and facilities; creating new linkages and developing capacity in and across clusters, value-chains, knowledge transfer networks; to undertake viability studies, validate products and services or simply improve and grow their business. • Promote the LLEPs world class knowledge base and use this strength to attract global Research and Development opportunities into Leicester and Leicestershire • Develop collaborations with other LEP areas with complementary strengths particularly where there is	

		potential to develop “smart specialisation” • Promote entrepreneurship and business creation among students, graduates and staff by combination of training and business experience, start-ups and providing appropriate incubation space alongside expertise. • Establish pilots, demonstration facilities and thematic innovation hubs around areas of expertise • Support SMEs to get funded to access graduate/post graduate placements or business input (supported by specialist academics) • Support incentives and skills development to encourage more take up of engineering based jobs including links to technician and higher level apprenticeships • Support businesses to obtain more Technology Strategy Board investment locally **City Deal** 7 key projects/plans identified for delivery during the course of the City Deal, with 1 having explicit innovation focus: 1. New infrastructure that will support the expansion of Loughborough University Science and Enterprise Parks (providing 8 hectares of new	

		employment land) and unlock a new Advanced Technology Innovation Centre. These two interventions will support the creation of up to 755 new jobs and the safeguarding of a further 400.	
Liverpool City Region LEP	Innovation Strategy: Yes, but not publically available/draft still in progress (latest dated May 2014) Governance: Liverpool LEP has innovation board	**Innovation Strategy:** • Latest draft innovation strategy sets out the following vision by 2020: 1] A track record of delivery of key innovation programmes of scale & significant economic impact 2] A well-connected & co-ordinated innovation environment 3] International recognition for innovation in 4 priority areas – health & well-being; advanced manufacturing; solutions for sustainable growth; creative content and digital capabilities. These 4 are complemented by cross-cutting activity of a 'first-rate innovation ecosystem.' • Strategy identifies 11 delivery programmes across these 5 priority areas, which will run between 2014 and 2020. ***Strategic Development Plan*** • 4 priority areas identified in SDP: Creating a freight and logistics hub; building on the revival of Liverpool city centre	**SEP** SEP SWOT analysis reveals the following strengths & key features relating to innovation: • Advanced Manufacturing: 18,000 employed, £754m GVA • Life Sciences: 3,000 employed, £147m GVA • Low Carbon: 40,000 employed, £1.577bn GVA • Digital & Creative: 14,000 employed, £432m GVA • Maritime & Logistics: 17,000 employed, £611M GVA -Knowledge assets including Sci-Tech Daresbury and The Knowledge Quarter, which contains world leading centres of excellence such as the Liverpool School of Tropical Medicine and the Oceanography Institute -Excellence in HE and FE sector **Innovation Strategy** IS identifies key assets under each of its priority areas. • Health & Well-Being: - Sector accounts for 10% employment and c9% GVA in city region - HE institutions – Liverpool University schools of dentistry, medicine, veterinary science, etc. & School of Tropical Medicine. LJMU Centre for Public Health.

		as a world class business and leisure destination; driving the transfer of the city region's energy supply to low carbon and renewable sources as part of the LCR energy initiative; skills and business support to enable growth. • Growth Deal announcement: £232.3m from the Government's Local Growth Fund - £35m of new funding confirmed for 2015/16 and £153.2m from 2016/17 to 2021. • 12 projects agreed with Government for co-investment, none of which have a particularly strong innovation focus, although many have strong focus on transport and infrastructure improvements. **EUSIF** **ERDF allocation towards TO1 (INNOVATION):** No breakdown by individual TO, but Liverpool LEPs EUSIF theme of 'innovation economy' received £26.5m ERDF out of £112.3m total (23.6%). **Programme prioritised on 5 key areas – innovation appears as one of these:** **Innovation Economy:** Supporting the translation of our inherent strengths in Big Science, Life Sciences & Bio-Medical, High Value Manufacturing, Green and Blue economy technologies, and Creative & Digital into opportunities	- Bio-manufacturing cluster in Speke – Eli Lilly, Actavis, Astra Zeneca, Novartis • Advanced Manufacturing: - Sector accounts for 6% GVA & 5% employment in city region – larger component of the economy than is the case for the UK as a whole • Solutions for Sustainable Growth (blue & green economy sector) - Rich mix of locational characteristics – urban, rural, maritime, estuarial, urban, agricultural. - Sector accounts for c10% city-region economy in terms of GVA and employment - Major asset includes deep water port infrastructure - HE assets relating to maritime and built environment research and academic knowledge • Creative & Digital: - Accounts for c3% total employment in Liverpool city region economy - Key assets include: Elevator studios, Baltic Creative, Liverpool Science and Innovation Parks, LJMUs Open Labs, Liverpool Film Office.

		for innovation, economic growth and employment ***City deal*** A key element of the Liverpool City Region's City Deal was to harness the City Region's science and knowledge assets, to attract "big science investment", to increase GVA and generate 2,000 high value jobs.	
London	Docs: No innovation strategy. But panel has commissioned a 'Science and Tech mapping' exercise by SQW to capture the dynamics of London's science and tech sectors and in order to assist the Group in effectively targeting policy to support and grow the industry. Innovation appears strongly in priority themes in the Panel's ESIF strategy and its 'Jobs and Growth Plan'. Governance: LEP has a 'Digital, Creative, Science and Technology' working group	**Growth Deal/SEP** Focused on 3 key priority areas identified in the London Enterprise Panel's Growth Deal submission: 1. Building London's skills base and supporting businesses; 2. Helping Londoners into sustainable employment; 3. Improving housing supply. London Enterprise Panel has secured £236m from the Government's Local Growth Fund. 3 priority areas identified, none of which have explicit innovations focus, but 2 focusing heavily of skills development, in areas related to innovation: 1. A capital infrastructure investment programme for London's skills providers based on a competitive bidding round that supports the London Enterprise Panel's priorities for promoting jobs and growth. 2. A digital skills pilot programme to raise levels of digital skills in London. **Growth deal expansion 2015**: extra £58m invested in the capital between	**EUSIF summarises following strengths related to innovation:** • World class higher education institutions; • World-class research and development at UCL, King's College, Imperial and the LSE, with Oxford and Cambridge; • Highly skilled labour force contributes to London being almost 30% more productive than the UK average; • London innovation actors spend significant amounts on research and development. • 13% of Government expenditure on R&D is spent in London, while the • London's Higher Education Institutions account for 24% of UK R&D expenditure • London has a competitive advantage across the sciences, reflected in its world class research base which, for life sciences, is on a par with the best science cities globally (notably San Francisco and Boston), • The London Molecular and Translational Imaging Centre, for example, comprises London's three AHSCs (Academic Health Science Centres: University College London,

		2016 and 2021. 2 key programmes announced - no explicit focus on innovation, but heavily focused on skills development. 1. £38m for the London Enterprise Panels' capital investment programme for colleges and further education providers in London to ensure facilities are available to support first class training that meets employers' needs **EUSIF** London Enterprise Panel ESIF focused on 4 'investment priority areas' with innovation featuring strongly in one of these: 'Strengthening Science & Technological Development and Fostering Innovation in London Enterprises' **ERDF £ allocation**: Innovation related priority area (above) allocated £39m from ERDF total of £176m (22.2% of total). Main objective of its priority area 'strengthening science, technological development and fostering innovation': 'The objective of this Investment Priority is to realise the potential of London's world class science and technology community to drive innovation and growth. ERDF investment will promote business investment in Research, Development and Innovation (R&D&I) and assist London's businesses to make the most of London's extensive knowledge base. This will create new	King's College London and Imperial College London32) and the MRC (Medical Research Council) which are focussing on creating new ways of diagnosing neurodegenerative diseases, cancer and other illnesses. • In 2015 the Frances Crick Institute will be Europe's largest centre of biomedical research bringing together a consortium of six of the UK's most successful scientific and academic organisations — the MRC, Cancer Research UK, the Wellcome Trust, UCL, Imperial and King's to drive innovation in new technologies. This will be one of the most significant developments in UK biomedical science for a generation. • 24,000 ICT and software companies are based in London, the highest of any European city

		commercial opportunities and will enable the effective exploitation of new ideas (p.59)' 4 themes appear under this priority area: • Theme 1: Connect London: Developing links and synergies between businesses, research institutions & public institutions. • Theme 2: Commercialising innovation • Theme 3: Innovation and adoption of low carbon and resource efficiency technologies • Theme 4: Promoting the development and exploitation by SMEs of digital technologies	
New Anglia	Governance: Enterprise and Innovation sub-board created as part of the City Deal Docs: No specific innovation strategy, although EUSIF notes that development of RIS3 strategy will be a key local objective under its innovation theme. LEP produced 'sector growth strategy' to inform SEP and ESIF – covers innovation related sectors.	**Growth Deal/SEP** GD focused on 3 key priority areas as identified in the LEP's SEP: 1. Enabling business growth 2.Enhancing transport connectivity and sites suitable for growth 3. Meeting labour market demands £173.3m from the Government's Local Growth Fund to support economic growth in the area. 9 initial programmes jointly funded, with 3 having explicit innovation focus: 1. Haverhill Innovation Centre- Creation of an innovation centre focussing on local strengths in life sciences and advanced manufacturing. This is a joint project with the Greater Cambridge, Greater Peterborough LEP.	**SEP** **Strategic Economic Plan identifies following innovation strengths and assets in New Anglia:** 1. Advanced Manufacturing and Engineering employs over 24,500 people in more than 1,000 businesses and is worth £1.5bn pa in GVA to the New Anglia economy. Several clusters, including automotive, civil and military aviation and pharmaceuticals. 2. Agri-tech – using technology to add value to the agriculture, food and drink sector - was prioritised in the government's Industrial Strategy. Whereas the UK economy only grew by 4% in GVA terms between 2007 and 2010, food processing grew by 13% and agriculture by 25%. The sector offers huge commercial potential for New Anglia.

		2. Process Engineering Centre & Renewal Catering and Hospitality Facilities at Lowestoft College– Enabling the next stage of development of a national centre for Maritime, Offshore and Energy Studies at Lowestoft College. 3. Construction and Agri-tech facilities, Easton and Otley College, Easton Campus – Enabling building of a new construction training centre and new agri-tech laboratory areas to accommodate employers' demands. **2015 Growth Deal Expansion**: Extra £48.5m invested in Norfolk and Suffolk between 2016 and 2021. 8 projects announce, with 2 having explicit innovation focus: 1. Supporting innovation within Norfolk and Suffolk by building Innovation Centres in Ipswich and King's Lynn, providing the right environment for innovative businesses to set up and grow. 2. Developing the skills of local people by creating a skills programme and also building a new Engineering and Innovation Technology Centre at West Suffolk College, Bury St Edmunds to provide the skills needed in the energy, engineering and advanced manufacturing growth sectors. **EUSIF** **New Anglia EUSIF priority ranked each of the thematic objectives**	3. Energy employs 7,700 people directly in New Anglia, and thousands more indirectly, and is worth about £994m pa with a GVA per job of £129k. We have a long standing North Sea oil and gas industry, now expanding into offshore wind. There is a third nuclear plant proposed at Sizewell and we have several biomass plants being developed across our area. 4. ICT/Digital Culture. The ICT sector is worth £1.3bn to New Anglia, with over 1,400 companies employing 10,300 people and GVA of £131k per head pa. BT's global research centre based at Martlesham, has a cluster of other businesses around it, as do our universities – including digital cultural expertise at Norwich University of the Arts. 5. Life Sciences is worth £132m pa and employs over 3,000 people in 200 businesses, with GVA of £122k per head. We have a world class research cluster at Norwich Research Park, with other research and business activity across the area covering everything from humans to horses, fish and plants. 4 successful specialist innovation centres already in operation: 1. Hethel Engineering Centre, near Norwich (Advanced Engineering) 2. Orbis Energy, Lowestoft (offshore energy) 3. Innovation Martlesham (ICT) 4. Norwich Research Park (Life sciences)

		(TOs), with innovation appearing in the top 3:- 1 = TO10 Investing in education, skills and lifelong learning 2 = TO3 Enhancing the competitiveness of small and medium enterprises 3 = TO1 Strengthening research, technological development and innovation 4 = TO9 Promoting social inclusion and combatting poverty 5 = TO4 Promoting the shift towards a low carbon economy in all sectors 6 = TO8 Promoting employment and supporting labour mobility 7 = TO5 Promoting climate change adaptation, risk prevention and management 8 = TO6 Protecting the environment and promoting resource efficiency 9 = TO2 Enhancing access to, and use and quality of, Information and Communication Technologies 10= TO7 Promoting sustainable transport and removing bottlenecks in key network Infrastructure **Spending allocation for Innovation Thematic Objective**: £11.3m (27.5% of ERDF total) New Anglia TO1 (innovation) sets out following local objectives under this theme: • To be an exemplar region for open innovation and absorption	

		of existing and new technologies. • Increase external funding to SMEs in Norfolk and Suffolk. • Improve commercialisation of knowledge, and market penetration, to support competitiveness, increase productivity and resource use efficiency. • Increase in the proportion of businesses that are innovation active • Increase the number of people working in the knowledge economy • Enable better access to innovation services provided by locally-based innovation centres • Maximise the potential benefit of existing network of research infrastructure to indigenous SMEs. • To ensure hinterland of growth locations benefits from innovation led growth • Integrated innovation focus on key societal issues for Norfolk and Suffolk linking key enabling technologies and research. • Production of a Smart Specialisation strategy (RIS3) **City Deal** **Ipswich City Deal** **Under Enterprise and Innovation the deal notes: Enterprise and Innovation:** 'A new business support service will boost economic growth by improving the coordination of local and	

		national business support, making it easier for businesses to find the help they need and introducing a range of enterprise and innovation schemes tailored to the needs of local businesses. We will raise awareness and uptake of public and private sector support available at the local and national levels by effectively guiding businesses to the most appropriate support. At the same time, a suite of additional support services, including enterprise and innovation advice, will be introduced to plug gaps in the existing offer and respond more directly to the needs of local businesses.' **Greater Norwich City Deal** Innovation forms one of the City Deal's 3 core strands: 1. Targeted enterprise and innovation initiatives to help existing business to expand and enable new small and medium sized enterprises to capture and commercialise research and academic excellence in life sciences and biotechnology at the Norwich Research Park, the digital creative cluster in the city centre and the aviation cluster based around Norwich.	
North East LEP	Docs: Published 'SMART Specialisation Report'. December 2013 Set up SMART Specialisation project team to draw up strategy to inform the SDP (led by Newcastle Science City, and including HE research centres from the city region)	***SMART Specialisation Report:*** Report states that Chair of the North East LEP Innovation Board's overarching Innovation framework puts innovation at the heart of the (business elements of) North East LEP SEP with emphasis on enterprise, skills, finance and internationalisation strategies.	**SMART specialisation strategy** SSS identifies 4 areas of economic activity (AEA) where the North East LEP area has existing strengths. AEAs under investigation not analysed/viewed as sectors, but are industry-led clusters of innovation and economic activity, with dynamic networks.

	Governance: LEP has Innovation Board	Report provides an approach to smart specialisation underpinned by the overall North East LEP strategic Innovation framework perspective – with three distinctive elements: • a portfolio of high potential areas of economic activity (AEAs), where the North East LEP area has established assets, capabilities, and realisable opportunity to deliver innovation-led growth; • a series of horizontal activities that draw AEAs together, linking with other sectors and technologies, and with neighbouring and potential partner LEPs; • a suite of measures to support emerging AEAs of high future potential SS report made following recommendations to the LEP: 1. Commit to developing integrated industry-led bespoke business growth programmes for the four AEAs analysed in the report 2. Consider the range of cross-cutting horizontal actions and support for potential emerging AEAs 3. Establish and launch a broadly based and legitimate innovation leadership team, reporting to the North East LEP Board and endorsed by the Combined Authority, who can deliberate on this report and put agreed recommendations into practice. 4. Adopt an innovation strategic framework based on the Chair of the	SSS highlights key features of potential exemplar AEAs as the following: • Passenger vehicle manufacture - exemplar of major foreign inward investment of strategic national importance which can stimulate supply chain business growth • Subsea and Offshore Technology - exemplar of indigenous business growth building on national and local innovation assets/capabilities, and attracting new enterprise to the area • Life Sciences and Health - exemplar of an AEA with a very large GVA and employment footprint, major manufacturing and local R&D capabilities, often national public service clients – where most LEPs will have considerable business growth ambitions • Creative, Digital, Software and Technology Based Services - exemplar of a mixed AEA which shares technology and skills bases to reinforce the overall footprint in creative industries and position North East LEP area (and region) as a UK 'delivery centre' of the AEA, and provide a key enabling technology capability to other business growth industries **SEP*:*** Innovation annex of SEP identifies comprehensive lists of innovation related assets and strengths in the North East: 1. Global corporates with significant investments in the North East, including Siemens, Accenture, Nissan, P&G, Akzo-Nobel, GlaxoSmithKline and Tata Steel. Whilst

		North East LEP Innovation Board's 'principles' of open innovation, international relationship management, a culture of learning, and access to finance to underpin the smart specialisation approach 5. Build the analysis of this report into the final SEP and EUSIF2014-20 submissions to government in early 2014. ***SEP/Growth Deal:*** SDP and resulting Growth Deal funding focused on five key priority areas: 1. Driving innovation and improving business support 2. Working with schools to improve outcomes in education 3. Tackling skills and economic inclusion 4. Building economic assets and infrastructure 5. Enhancing transport and digital connectivity The North East LEP secured £289.3m from Local Growth Fund. 6 major projects received funding, with 3 having an innovation focus, in particular, the 'North East Innovation Programme': 1. A North East innovation programme - a package of five projects to support and drive innovation in the LEP area: (1) Newcastle Life Sciences Incubation Hub; (2) NETPark Infrastructure Phase 3; (3) Low Carbon Energy Centre; Newcastle Science Central; (4) Sunderland Enterprise and Innovation	these are great strengths for the local economy, many of these are currently key manufacturing or service sites for these organisations, with limited innovation activity present. 2. Significant high calibre innovation-driven businesses born and headquartered in the area, providing high value employment. 3. Universities with world-leading departments in several sectors that are crucially important to UK wealth creation. Witty Review places North East universities in the top 20 nationally in a number of areas. *Innovation hubs:* Head-quartered or with significant presence in North-East: 1. Centre for Process Innovation (CPI), based in Redcar and Sedgefield is the process industry focus for the network of national catapult centres, helping businesses to scale-up and test manufacturing processes. 2. The National Renewable Energy Centre (Narec), based in Blyth, provides a unique integrated portfolio of open access testing and research facilities for renewable energy industries. 3. The North East Business Innovation Centre in Sunderland offers support and incubator services for businesses of all shapes, sizes and sectors. 4. The North East Technology Park in Sedgefield offers a physical and virtual technology resource to the whole of the North East. 5. The Centre for Ageing and Vitality at Newcastle University, brings together cross-sectoral innovation for health and well-being. 6. The Automotive and Manufacturing Advanced Practice Institute at the University of

		Hub; (5) The Centre for Innovation in Formulation. 2. Merchant Park 2 - to support inward investment and supply chain development adjacent to the future home of Hitachi Rail Europe. 3. Skills improvement package - five projects to increase skills levels in key sectors: (1) Tyne Met College; (2) South Tyneside College; (3) Port of Blyth Offshore and Wind Energy Training Facility; (4) Newcastle College Group: Low Carbon Tech Centre; (5) East Durham College. **2015 GD announcement:** extra £40.6m invested in the North East economy between 2016 and 2021. 3 projects announced, with all 3 having innovation focus: 1. The creation of a facility for a national centre to develop and commercialise photonics based therapies. Lead by the Centre for Process Innovation, part of the High Value Manufacturing Catapult. 2. Upgrading the facilities at Northumberland College to improve skills levels and support economic growth in key sectors such as advanced manufacturing, renewables and ICT. 3. Sunderland Enterprise and Innovation Hub. Enterprise and Innovation Hub, comprising the first 'Fab Lab' in the North East, incubation spaces and workshop, office and laboratory space for manufacturing, creative and science-based businesses. **EUSIF:**	Sunderland, provides facility based solutions for companies looking for innovation as a route to growth. 7. Software City in Sunderland and Digital City in Teesside are engines for growth in software, digital technology and media.

		ERDF allocation to TO1 (innovation): £53.2m (21.7% of ERDF total of approx. £244.9m) ***N.B. precise ERDF allocation not clear from documentation.*** A number of innovation related projects appear as part of the ESIFs 11 thematic objectives. Examples include: 1. Thematic Objective 1: Strengthening Research, Technological Development & Innovation. Key innovation related activities include: - Building collaborative research between enterprises, research institutions and public institutions. - Bringing new products and business processes to the market, including those linked to 'key enabling', the 'eight great' and health science, technologies. - Improved incubation space and test facilities to enable the commercialisation of research and development and innovation and to improve access to these facilities through digital and physical links. Thematic Objective 3: Enhancing the competitiveness of small and medium enterprises. Key innovation related activities include: - Access to finance for SMEs to support growth and innovation Thematic Objective 4: Supporting the Shift towards a Low Carbon Economy in All Sectors. Key innovation related activities include:	

		- Built Environment and Business Energy Efficiency - Develop Low Carbon Supply Chains - Innovative Technologies and Renewable Energy Generation Thematic Objective 10: Investing in Education, Skills and Lifelong Learning. Key innovation related activities include: - Support for intermediate, technical and high level skills and studentships especially linked to Areas of Economic Advantage (AEAs) and the low carbon economy.	
Northamptonshire	Docs: No innovation strategy document identified. Governance: No identified sub-group charged with overseeing innovation	**Growth Deal/SEP** Focused on 3 key priority areas identified in the LEP's Strategic Economic Plan: 1. Infrastructure, connectivity and housing 2. Business and Innovation 3. Skills The Northamptonshire LEP secured £67.3m from the Government's Local Growth Fund. 3 initial project co-financed, with 1 having explicit innovation focus: 1. Investment in a new metrology facility at the Silverstone Technology Park will help Northamptonshire cement its reputation as the centre of the UK's high performance technologies industry. The facility will help SMEs in the sector to	**EUSIF:** **Key Innovation strengths/assets:** • Key sector strengths in High Performance Technologies generating £2bn turnover and employing 21,000 people. • Concentration of over 1,000 High Performance Technology (HPT) companies, Northamptonshire has developed a unique and comprehensive industry supply chain. This significantly contributes to the economic growth of the county, which is now at the centre of the UK's world-leading HPT cluster • Increasing appetite for technology transfer between sectors including "green" logistics and HPT.

		bring their products to market more speedily and directly supports the Government's Industrial Strategy for the automotive sector. **2015 Growth Deal Expansion**: Extra £9m invested in Northamptonshire between 2016 and 2021. 2 additional projects proposed, neither having explicit innovation focus. **EUSIF** ESIF focused on 4 investment priorities, with innovation appearing as one of these: Priority 1: Innovation Priority 2: Driving SME competitiveness Priority 3: Sustainable and equitable growth Priority 4: Responsive and adaptable workforce **ERDF allocation under TO1 (Innovation)**: £4m out of £23.1m total – 17.3% of total **Priority 1**: focused on developing new high growth companies in the county (SMEs in the targeted sectors which provide most of the GVA in the region) and the development of new products and processes to strengthen company competitiveness. It supports UK innovation policy and addresses market failure with regard to SMEs and barriers to invest in innovation development costs. The key aims and objectives are:	

		• Facilitating businesses to shift into higher value activities through increasing innovation and better use of IT with greater foresight and leadership and more effective exploitation of Intellectual Property. • Extending the market reach of businesses so they can improve their competitive edge outside of the county through better management, commitment to innovation and increased focus on international trade. • Improving access to the Pan LEP R&D base and Higher Education Institutions to ensure a strong supply of higher value commercially viable ideas leading to new products, new processes and new customers and markets.	
Oxfordshire	Docs: No stand-alone innovation strategy doc, although innovation given strong focus throughout strategy document. Governance: No innovation sub-group/board.	• LEP explicitly uses term 'innovation' in its SEP title – *'Driving Economic Growth Through Innovation'* • 4 priority areas identified in Growth Plan – innovative connectivity, innovating place, innovative enterprise, innovative people. Innovative Enterprise has focus on 'building strength of Oxfordshire's university and industry research and development capacity to develop business collaboration and supply chain potential.'	Of the Government's 'eight great technologies' its SEP notes that Oxford LEP has strong and growing capability in 6 of these. On innovation and enterprise Oxfordshire is said to have the following key strengths: -Global brand for academic excellence -Top 5 technology innovation ecosystems in the world – 1,500 high tech firms employing approx. 43,000 people. -International leader in advanced engineering & manufacturing sector. Examples include automotive and motorsport, with 4 F1 teams based in the county. -Largest concentration of multi-million dollar science research facilities in Europe clustered in and around Science Vale Oxford enterprise

		• Innovative Enterprise made up largest part of Oxfordshire LEP's LGF bid for 2015/16, amounting to £100.38m, out of a total of £155.11m. **Growth Deal announcement**: Oxfordshire LEP secured £108.5m from the Government's Local Growth. 7 key projects received funding allocation, with 2 having strong innovation focus: • Centre for Applied Superconductivity: a new centre of innovation to coordinate the interaction between key industry players, Oxford University, cryogenics companies, and end users (including SMEs) • Oxfordshire Centre for Technology and Innovation: development of a technology and Innovation Training Centre in Oxford to address skills shortages across engineering, electrical, design, and emerging technologies. **2015 GD extension**: extra £9.9m invested in Oxfordshire between 2016 and 2021. 4 new projects announced, with 2 having innovation related activities: 1. A package to improve transport in North Oxford and enable the Northern Gateway Development, which will provide business and research space, and new homes.	zone – contains 13% of R&D employment in South East England. -Life Sciences – Oxford has one of largest bio clusters in Europe, with the University of Oxford's Medical Sciences Division receiving more than 60% of University's external research income -International Space Cluster - European Space Agency currently building European Centre for Space Applications and Telecommunications on Harwell Oxford Campus

		2. Transport and site improvements to support the Oxpens development, which will provide much needed office and research space and new homes in the heart of Oxford. **EUSIF:** **ERDF allocation to TO1 (innovation):** £3.15m from £8.1m ERDF total (38.8% of total) Focus of innovation theme: networking between institutions, support to commercialise products and creation of 'breakthrough fund'	
Sheffield City Region	Doc: No specific innovation strategy document identified. Governance: LEP has 9 Sector Groups which aim to provide advice and to facilitate economic growth in the key growth sectors in the City Region, acting as official advisors to the LEP. Groups include: -advanced manufacturing -business and professional services -creative & digital industries -healthcare technologies -low carbon -property and construction -retail -sport, leisure & tourism	**Growth Deal/SEP** GD focused on 3 key priority areas as identified in the LEP's Strategic Economic Plan: 1. Transport, Employment and Housing Sites 2. Better Skills 3. Delivering World Class Business Support Secured £295.2m from the Government's Local Growth Fund to support economic growth in the area. 10 projects funded, none having explicit innovation focus. **2015 GD Expansion**: Extra £30.7m invested in Sheffield City Region between 2016 and 2021. 1. Investment in Skills, capital investment in training facilities across the Sheffield City Region, to maintain and improve facilities for learners. This	**SEP** **Key innovation assets and strengths claimed by the LEP:** 1. Home to 2 Universities with world class research capabilities, with the country's largest engineering department by 2015, and a significant Further Education presence, covering a range of different specialisms. 2. Home to the Advanced Manufacturing Park, as a centre of collaboration between business and Universities, which will be home to the most advanced manufacturing factory in the world. 3. Home to the UK's number 1 Enterprise Zone for advanced Manufacturing.

		will include the creation of a new Rail Engineering Campus in Doncaster, bringing together a new £50m Centre of Excellence for Rail Engineering with the HS2 National College and other major facilities to make Doncaster the UK's capital for rail engineering skills. 2. A fund to speed up development in the Sheffield City Region Enterprise Zone, creating new high quality employment premises and speeding up the delivery of jobs and further investment in the Enterprise Zone. The Enterprise Zone has sites in Barnsley, Doncaster, Rotherham, Sheffield and Markham Vale. **EUSIF** **Sheffield LEP ERDF allocation to TO1 (Innovation):** £26.8m out of £208.4m ERDF total (12.8% of total) **City Deal** Sheffield City Deal has 5 overarching aims, with innovation featuring strongly as one of these: • Developing a national centre for procurement based around SCR's Advanced Manufacturing and Nuclear Research Centres Anticipated impact of this programme: • Through the AMRC and NAMRC, Sheffield City Region can develop the UK's advanced manufacturing and nuclear advanced manufacturing market by better managing the interface between demand for	

		complex new manufacturing products and supply-side innovation. Take major steps to achieve the UK's £1 trillion national export target by 2020 through smarter procurement, putting UK industry in prime position to capture both UK and global market opportunities.	
Solent	Docs: No SMART specialisation/innovation strategy, but has undertaken 'skills strategy evidence base' in 2014. Governance: Has sub-group covering innovation.	**Skills Strategy (undertaken by University of Exeter)** makes following recommendations of area for Solent LEP to focus its skills strategy: • Developing world-class skills • Transitions to employment • Raising business investment in skills • Delivering a responsive skills and employment system. • **Growth Deal/SEP** GD Focused on 3 key priority areas as identified in the LEPs Strategic Economic Plan: 1. Enabling flagship sites for housing and employment 2. Enhancing transport connectivity across the area 3. Growing the skills base and supporting business growth. Secured £124.8m from the Government's Local Growth Fund. 6 projects announced, with 2 having innovation related activities:	**Strengths identified in Skills Strategy Evidence Base** **1. Maritime and marine sector** The Maritime sector makes an important economic contribution to the Solent economy and its underlying assets are of national significance. In terms of output, the sector contributes 18% to the Solent's GVA. **SEP claims Solent has following innovation strengths:** 1. 3 universities in Solent major economic asset, providing a source of highly-skilled employment, generating new businesses, supporting existing businesses and bringing significant revenues to the local economy: - Research by the Centre for Cities shows that the University of Southampton has high levels of interaction with businesses, generating £56.5m from Intellectual Property (IP), research and consultancy contracts in 2011/12; University of Portsmouth generates £11 million and Southampton Solent University £6.7 million

		1. IoW College – a centre of excellence for composites, advanced manufacturing and marine technology. 2. Eastleigh College – upgrading existing college facilities, including a new Advanced Technology block **2015 GD expansion**: Extra £27.1m invested in the Solent area between 2016 and 2021. 4 projects announced, with 1 having explicit innovation focus: 1. A flexible programme of skills and innovation projects, to improve skills and promote innovation in the Solent area. **EUSIF** **Allocation of ERDF to TO1 (INNOVATION):** £3.6m or 19% of ERDF total of £18.9m. Innovation Priority: Engaging greater number of enterprises in innovation and research and providing grants for development of new products. Key activities under innovation TO: 1. supporting eight enterprises/clusters/projects per annum through the Innovation Grants programme 2. Focus Innovation Grants on LEPs Strategic Sectors: Advanced engineering, Marine and maritime, Aerospace and Defence.	2. Solent is home to an advanced manufacturing and marine cluster of national importance, contributing £3.6 billion and £1.9 billion GVA to the economy respectively. The Isle of Wight is home to an emerging cluster of renewable energy, composite materials and marine technology businesses.
South East Midlands	Docs: No innovation strategy document. But innovation has strong focus in both SEP and ESIF, and in governance structure (below).	**Growth Deal/SEP** GD focused on 3 key priority areas as identified in the LEP's	**EUSIF – Highlights following innovation strengths:**

	Governance: SEM LEP has several sub-groups, with one covering each of its 'four showcase sectors': manufacturing & advanced technology; culture & creativity; high performance technology; logistics & supply chain. One of these groups collaborates with neighbouring LEPs, e.g. **High Performance technology**: engages with five other LEPs – Bucks Thames Valley, Northamptonshire, Leicester and Leicestershire, Coventry and Warwickshire and Oxfordshire. The aim of the group is to grow the number of jobs in the High Performance Engineering sector related to motorsport, automotive engineering and aerospace and to encourage foreign direct investment.	Strategic Economic Plan – innovation explicit focus of 1 of these: 1. Infrastructure and housing 2. Business support and innovation 3. Enhancing skills and employment opportunities SEMLEP secured £79.3m from the Government's Local Growth fund. 6 projects announced, with 1 focusing on skills development related to innovation sectors: 1. Leighton Linslade Engineering and Construction Skills Centre: The new centre will have engineering and construction expertise to train young people and adults to work as technicians in these key sectors **2015 GD expansion announcement**: extra £46.7m invested in the SEM LEP between 2016 and 2021. 5 projects announced with 2 having innovation related focus: 1. Development of an open innovation facility at Cranfield University allowing for the integrated development of autonomous transport vehicles and related complex intelligent systems, bringing up to 1000 new jobs to the Bedfordshire area. 2. The Vulcan Iron Works Project to deliver a Creative Industries Hub of managed workspace in the Northampton Enterprise Zone that will support creative business in Northampton and SEMLEP. The scheme is expected to create 180	• Network of respected HE/FE and research centres of excellence • Knowledge assets (e.g. Silverstone, HPT sector, UTCs) • Key 'knowledge' sectors – advanced manufacturing/engineering, food & drink airport related, logistics and creative. 1. **University specific strengths:** • Cranfield University a particular strength: worldwide centre of excellence in precision engineering, especially automotive, aerospace and manufacturing. The Manufacturing Research Centre a key asset, active collaboration networks such as the Engineering & Physical Sciences Research Council projects on industrial sustainability and advanced composites, strong links with partners such Jaguar, Lotus, Boeing and Nissan. • University of Bedfordshire has an established reputation and developed new programmes in science, computing and medically-related science. It is expanding the range of courses it delivers in collaboration with industry • The Open University (Milton Keynes) providing distance learning courses to students across the UK and further afield at undergraduate and postgraduate level as well as continuing professional development courses and research degrees. Expertise includes, Centre for Research

		additional new jobs in the Northampton Enterprise Zone. **EUSIF** **Allocation of LEPs ERDF to Innovation thematic area (TO1):** £9.5m or 25% of ERDF total of £37.8m SEM LEPs overall Aim under TO1: To fully exploit the SEM's knowledge base in Higher Education Institutes, research institutes and private sector firms by providing the right environment and conditions for business to locate, cluster and innovate through knowledge and technology transfer. Key activities under TO1: 1. SEM Growth and Innovation Programme 2: Digital technology & demand stimulation programme 3: Low Carbon and Technology Innovation Support Programme	• The Universities of Northampton and Bedfordshire share a manifest commitment to business-focused provision, enterprise development and to workforce skills with important niche research specialisms; and are well positioned for delivery across the South East Midlands geography **2. Private sector strengths**: The area has a particularly strong foundation in Advanced Manufacturing, High Performance Technology (HTP), precision engineering, value added Food and Drink, life sciences (including pharmaceutical and Healthcare products) and creative industries, with examples of key businesses including Nissan Technical, Lockheed Martin, Jungheinrick, Selex Galileo, Kraft, Unilever, St Andrews, AstraZeneca, Movianto, Jordans/ Ryvita, Carlsberg and Cinram. (see separate table for SWOT detail) 6. Review undertaken for SEP proposed the following four sectors as candidates for investment because of high growth potential: High Performance Technology; Logistics; Manufacturing and Advanced Technology (including Food and Drink) and the Cultural and Creative Sectors (including the visitor economy and sport).
Stoke on Trent and Staffordshire LEP	Docs: No stand-alone innovation strategy. However, as part of 5 West Midlands LEPs, SS LEP has agreed number of principles regarding approach to S3 (see column opposite). Governance: Keele University and Staffordshire University have recently	**Agreed principles underpinning the 5 West Midlands LEPs (Marches, Stoke-on-Trent and Staffordshire, Black Country, Greater Birmingham and Solihull and Worcestershire) approach to S3:**	**EUSIF** **Key innovation Strengths:** 1. Existing businesses and institutions – Stoke-on-Trent and Staffordshire economy is already home to a number of high profile companies engaging in innovation and research activities (such as CERAM, a private research and testing organisation with an

	formed the Business and Innovation Group (a strategic alliance of Keele University, Keele University Science and Business Park, Staffordshire University and North Staffordshire Chamber of Commerce) which aims to take a lead role in supporting the economic growth activities of the LEP Board.	*(Extract from SS LEP EUSIF document): The five West Midlands LEPs are proposing (subject to LEP board agreement) to adopt a two tier approach to S3. The LEPs have agreed to initially explore a joint approach when considering the advanced manufacturing sector/supply chain, given the size, innovative strength and importance of this sector to the West Midlands. For other sectors/ specialisms each LEP will initially develop their own approach at the strategic level. This cross-LEP approach to advanced manufacturing will be flexible enough to allow each LEP to pursue their own S3 approach to meet their individual needs. Whether as a group or individually these proposals will be detailed in each S3 Strategy and will be based on the following principles:* 1. S3 needs to be applied in different ways to take into account the specific local circumstances. 2. S3 should not only be applied in the short term to the design and management of SIF. It is an important long term strategic tool that will help to identify opportunities for better strategic alignment with other important public funding streams that support innovation. 3. S3 is an ongoing process of learning, continually driving more productive and sustainable investments in innovation at all levels. 4. Aspects of S3 can be delivered at the UK level (e.g. tax incentives for research and development), some at a Cross LEP WM level and some	international reach), and is also home to two universities (Keele and Staffordshire). 2. Pre-existing and proposed innovation projects – There are a number of major facilities proposed or pre-existing to build on local sector specialisms and to drive innovation in Stoke-on-Trent and Staffordshire, including CoRE, Applied Materials Research and Innovation Centre (AMRIC), Centre of Excellence in Energy Security and Renewables (CEESR) and the Keele University Energy Demonstrator. There are also strong links to a range of other institutions and research centres in neighbouring areas and across the UK. For instance businesses in southern Staffordshire have linkages with Warwick Manufacturing Group and other sector specialists 3. Regional Growth Fund successes – Stoke-on-Trent and Staffordshire has also had a number of notable Regional Growth Fund successes. Several of these, such as Zytec R&D Facility, have innovative activities at their core. 4. Both Keele University and Staffordshire University already have established track records in engaging with, collaborating with and adding value to the local business base. This is partly demonstrated by the recent track record of Staffordshire University – over the past two years, the university has delivered 106 knowledge based collaborations, 16 industry led bids for collaborative R&D grant funding submitted, 7 KTPs and 1 KEEN. The university's innovation pipeline over the same time period includes 14 Licences, 7 spin out companies, management of 11 patent applications and 116 disclosures of inventions, discoveries and creations.

		elements will be delivered at an individual LEP level. 5. Evidence from the Annual Innovation Report will be combined with specialist knowledge of the genuine comparative advantages of the West Midlands in advanced manufacturing and individual LEP areas to develop S3. **Growth Deal/SEP:** Focused on the key priority areas as identified in the Local Enterprise Partnership's Strategic Economic Plan: 1. Opening up access to key employment sites identified in the City Deal 2. Improving connectivity and easing congestion and 3. Sector growth and a skilled workforce. Secured £82.3m from the Government's Local Growth fund. 8 projects announced, with 1 having an innovation related focus: 1. An Advanced Manufacturing Skills Hub that will provide the skills and engineers required for local priority sectors and grow traineeships and apprenticeship opportunities. **2015 GD expansion announcement**: Extra £15.4m invested in the Stoke-on-Trent and Staffordshire area between 2016 and 2021. 5 projects announced, with 1 having innovation related focus:	**EUSIF highlights the STS LEPs priority sectors, and its strengths/potential for growth in these areas:** **Advanced Manufacturing Sectors:** • **Aero-Auto**: The high concentration of employment within the aeronautical and automotive technology sector in the Midlands is linked to the presence of major car manufacturers in the area, particularly Jaguar Land Rover, Toyota and their extensive supply chains. A large number of transport-related supply chain companies exist within Staffordshire and Stoke-on-Trent. • The presence of Moog on the i54 business park in South Staffordshire links to a wider cluster of aviation-related firms in the area, and this may provide further future opportunities for growth. • **Agri-tech**: The area has a strong rural economy, with agriculture and food and drink being large employment sectors within the area. • **Applied Materials:** Stoke-on-Trent and Staffordshire has a historic strength in materials industries, particularly ceramics and this presents opportunities in applied materials development. The area is home to a cluster of around 300 materials based companies, including renowned international brands such as WWRD, Steelite, Biocomposites, Emma Bridgewater, Endeka, Dudson, Foseco

		1. The creation of an 'enterprise quarter' in Tamworth **EUSIF** **TO1 (Innovation) ERDF allocation:** £23m of £83m ERDF total (or 27.7% of total) **EUSIF Ambitions:** Stoke on Trent LEP set out 8 ambitions for its EUSIF programme. Innovation features explicitly as one of these:- • An innovation driven economy: with established relationships between major companies, R&D functions and Higher Education and with a SME business base which has the capacity an knowledge to engage and add value to local and regional supply chains. ESIF has 4 priority themes, with Innovation appearing as one of these. 3 strategic investment areas under its Innovation theme: 1. Infrastructure for Innovation. Activities to include: • Applied Material Research and Innovation Centre (AMRIC) • Incubation space and enterprise centre projects • Shared use research laboratories / facilities such as Fab Lab and sector based innovation hubs • Inward innovation programme 2. Knowledge Transfer:	Ltd (Vesuvius), Goodwin International, Tennants Chemicals Fuchs Lubricants and Johnson Matthey Colour Technologies. **Barometer Sectors:** • **Energy Generation:** Stoke-on-Trent and Staffordshire have long been associated with generating power and continues to home major companies in the sector including Alstom, ABB, Siemens Wind Power, GE Power Conversion. • Both Keele and Staffordshire Universities combined, have world leading expertise in renewable energy research and development. • **Medical Technologies**: Although starting from a small base, employment in scientific. R&D in medical technologies has also grown. The School of Medicine at Keele University, the University Hospital of North Staffordshire and Keele University Science and Business Park represent an opportunity for attracting more growth in this area. The Research Institute at Keele University leads on pure and applied research, and includes an Institute for Science and Technology in Medicine. Stoke-on-Trent and Staffordshire is also home to a growing number of leading medical technology and healthcare companies, including Swiss owned TRB Chemedica Biocomposites, Cobra Biologics and Intelligent Orthopaedics. • **Business and Professional Services (including creative and digital):**

		• Sector based innovation networks and open innovation networks • Collaborative research programmes • Knowledge transfer programmes 3. Commercialisation • Rapid prototyping projects • Proof of concept projects • Innovation vouchers • Collaborative R&D support **Innovation priority theme ERDF allocation**: £23m out of ERDF £83m total (27.7% of ERDF total) **Other LEPs collaborated with on innovation**. Yes - Greater Birmingham and Solihull LEP; Black Country LEP; Marches LEP; Worcestershire LEP. **City Deal** **Stoke on Trent and Staffordshire:** Innovation central component of SS City Deal. Under Business and Innovation the following is noted:- Enterprise and innovation will be delivered through two programmes: • a joint Innovative Growth in Stoke-on-Trent and Staffordshire investment programme funded from central government; and	Currently supports 40,000 jobs in Stoke-on-Trent and Staffordshire. The sector also grew by over 1,500 employee jobs between 2006 and 2010, highlighting the potential for growth. Creative industries are growing in Stoke-on-Trent and Staffordshire, particularly in terms of TV and video production. The area also has a strong track record in attracting digital companies, particularly in the energy, medical and entertainment fields. Both Staffordshire University and Keele University have respected expertise in film and media.

		• a Stoke-on-Trent and Staffordshire Business Support Programme with funding from the University of Lancaster Business Support Programme Regional Growth Fund allocation	
Swindon and Wiltshire LEP	Docs: No innovation strategy document identified, but innovation features strongly in EUSIF/SEP doc, with numerous references to SS. The LEP produced a 'Swindon and Wiltshire local enterprise partnership high value manufacturing project' document. The study engaged 35 local companies and organisations between September and December 2013 through structured workshops, questionnaires and interviews, to establish a draft vision, candidate development themes and supporting industrial capability priorities for high value manufacturing (HVM) in the Local Enterprise Partnership (LEP) area. Governance: no sub-group/board responsible for innovation related activities identified.	**Growth Deal/SEP:** Focused on 4 key priority areas as identified in the LEP's Strategic Economic Plan. Innovation explicit component of one of these: 1. Supporting Swindon and Wiltshire's innovation economy. 2. Delivering major new housing and employment sites. 3. Improving transport connectivity. 4. Growing the skills base and supporting business growth. Secured £129.3m from the Government's Local Growth Fund: 5 projects announced, with 1 having explicit innovation component: 1. Porton Science Park - The first phase of a bold new science park at Porton, to help grow the emerging Swindon and Wiltshire life sciences cluster, delivering high value jobs and innovative commercial opportunities. **2015 GD expansion:** extra £11.5 m invested in Swindon and Wiltshire between 2016 and 2021. 3 projects announced with 1 having explicit innovation component: 1. Supporting the development of an incubation space for digital and innovation start-ups in Corsham, with	**EUSIF** ESIF identifies 8 growth sectors in the LEP area: • Military and Defence • Business and financial services • Tourism • Land-Based industries including food • Environmental technologies • Health and life sciences • ICT and mobile communications Following assets/strengths identified for those with innovation focus: 1. Advanced engineering and manufacturing: • SWLEP is home to a number of world leading engineering and manufacturing companies including: Honda, Dyson, BMW Group, Cooper Tires, Fairchild Semiconductors, Tyco Electronics, Knorr-Bremse and Johnson Matthey. These are all businesses which rely on innovation to maintain and enhance their competitive position within global markets • The significance of the sector is reflected in the Location Quotient for employment of 2.29. Our companies have close working relationships with a number of leading universities which

		teaching space and collaboration space for the digital sector. **EUSIF** **Innovation ERDF allocation:** no breakdown provided in available documentation EUSIF structured around 4 priority themes, of which innovation is one: 1. SME Growth 2. Innovation for Sustainable Growth 3. Skills for Growth 4. Skills for Inclusion Key activities under innovation theme: 1. Innovation for Smart Specialisation 2. Innovation for a Low Carbon Economy 3. Innovation for Natural Capital - investing in natural capital, landscape and environment **City Deal** Swindon and Wiltshire: No explicit innovation related element to the deal, but strong focus on higher levels skill development within the local labour market. E.g. • Establish a SWLEP Skills Brokerage to incubate stronger partnerships between local employers and Higher Education Institutions; and also to provide a centralised resource for enhanced Information, Advice and Guidance for local Service	specialise in engineering including the universities of Bath, Bristol, Southampton, West of England and Bournemouth. Other centres of excellence include Dyson's Research, Design and Development Centre, the South West Composites Gateway and the Advanced Composites Centre for Innovation and Science. • The Engineering Innovation Network – South West is an important project being led by Wiltshire College along with partners; Swindon College, the University of Bath and Bridgwater College to support engineering SMEs. • The manufacturing sector and professional, scientific and technical services sector are particularly focused on innovation. Manufacturing businesses in Swindon and Wiltshire invested 14.9% of turnover in innovation in 2011, compared with the national average of 4.2%. Businesses in the professional, scientific and technical services sector in Swindon and Wiltshire invested 39.9% of turnover in innovation, compared with 22.9% in England (Community Innovation Survey) 2. Military and Defence: • Home to 15,000 military personnel, and an additional 4,530 MOD civilian personnel. This does not include very significant additional employment in SWLEP based businesses in the defence supply chain – this includes defence contractors (including Aspire, Chemring Counter Measures, Elior, Landmarc, Man Bus and Truck,

		Leavers and other individuals to access information on part-time higher level skills development in the local area. • Develop a University Campus within Swindon and Wiltshire that allows existing Higher Education Institutions (from outside the area) to deliver part-time provision for learners to study towards a higher level qualification. This will utilise existing infrastructure available from the Armed Forces (subject to appropriate availability), Further Education Colleges, University Technical Colleges (UTCs) and employer facilities. • Widen participation by ensuring that learners wishing to undertake part-time study for a higher level qualification have multiple funding and financing options available within the existing policy mechanisms. Focusing the offer initially on Service Leavers (facing redundancy and / or planned transition), but widening participation to local civilians who wish to study part-time for a higher level qualification	Quintetic, Serco, Sodhexo). Chemring and Man Bus and Truck, both based in Swindon, are prime contractors to the MOD. • defence supply chain and defence related business activity, Porton Down, with the Defence Science and Technology Laboratory (dstl) and Public Health England (PHE), is a particular focus. There are numerous private companies such as QinetiQ, Chemring Countermeasures, Tetricus, Aspire and Serco that operate within the defence sector. These companies work in a variety of different areas, including cyber security, defence logistics and rocketry. These businesses are linked by a need to innovate and respond to the changing environment in which the Armed Services operate. 3. Environmental Technologies • An estimated 1,700 people worked in environmental technologies in 2012 (including working proprietors). This was a significant increase (118%) since 2009. Nationally, employment in environmental technologies rose by 21% over the same period. Official estimates suggest that while we had fewer than 100 firms in the environmental technologies sector in 2011, the sector is slightly over-represented compared with England (firm LQ = 1.15) • Johnson Matthey is a world leader in the provision of catalytic materials for use in propulsion systems including fuel cells. Other notable firms include:

			BPV Solar and Good Energy along with a host of small firms generating energy from renewable sources. A new £1m research facility for low-carbon construction materials is being built as the first stage of a Bath University research park in Swindon. 4. Health and Life Sciences • There were an estimated 7,000 jobs (including working proprietors) in 2012 in the life sciences sector in Swindon and Wiltshire. This is nearly three times the concentration of employment (LQ = 4.1) relative to national averages and higher than many high performing comparator LEPs. • Porton Down near Salisbury houses a significant Defence Science and Technology Laboratory (dstl) facility and Public Health England (PHE). The adjacent Porton Science Park in development has links with Tetricus Porton Bioscience (a science incubator for new and growing firms) and Ploughshares Innovation, which uses research from Porton Down for commercial purposes. Swindon is also home to a variety of pharmaceutical companies, such as Canada's Patheon and the US-based Cardinal Health, who have their UK divisions headquartered in the town. 5. ICT and Mobile Communications • estimated 1,800 firms in the Information and Communications Technology sector in 2011, or 8% of all firms. This represents a higher concentration compared with England

			(firm LQ = 1.24). Alcatel-Lucent, Plantronics and Intel all have a significant presence in the area. ICT features strongly as an enabling technology across a range of sectors e.g. advanced manufacturing, low carbon, professional services and finance and life sciences. The M4 corridor forms the backbone to the UK's ICT cluster so is in easy reach for SWLEP businesses within the supply chain.
Tees Valley	Innovation Docs: Smart Specialisation Innovation Strategy produced by Fraser Associates over the period 2013-2014 Governance: The LEP has set up an Innovation Leadership Group	**Growth Deal/SEP** Focused on 3 key priority areas as identified in the LEP's Strategic Economic Plan – innovation explicit element of one of these; 1. Driving skills and innovation 2. Building more effective transport and infrastructure 3. Creating the environment for business growth Tees Valley LEP has secured £90.3m from the Government's Local Growth Fund. 10 projects funded, with 2 having explicit innovation focus: 1. Materials Processing Institute – creation of an open access technology centre 2. Teesside Advanced Manufacturing Park (TAMP) Offshore Wind Validation Centre – to provide research and validation services for offshore wind tower manufacturers as well as for the oil and gas and sub-sea sectors.	**EUSIF/SEP** **Key innovation assets:** 1. Critical mass of advanced manufacturing and engineering - We have substantial capabilities in process engineering, steel, automotive, aerospace, offshore engineering (particularly subsea) and energy (including renewables, oil and gas and nuclear). 2. Emerging and growing sectors - We have a diverse mix of digital/creative businesses trading across our sectors – the creative/digital sector has grown in size, even during recession. We also have a large health and social care sector, with innovating businesses in pharmaceuticals, biologics and medical technology, and the presence of major logistics operators. 3. Presence of innovation support - Strong supporting infrastructure with the presence of the Centre for Process Innovation (CPI), Teesside and Durham Universities and Teesside Welding Institute (TWI). These provide strong research and development capabilities and will be supplemented by the

		2015 GD expansion: extra £13.9m invested in Tees Valley between 2016 and 2021. 3 projects announced, with 1 having explicit innovation focus: 1. Creation of a skills programme to support key growth sectors in advanced manufacturing, low carbon, oil and gas, digital and logistics. **EUSIF** EUSIF has 5 priority themes, with innovation featuring as one of these. Rationale/focus of innovation theme: • 'Our innovative businesses and nationally-significant innovation assets need to be utilised further to benefit businesses across Tees Valley and increase our low rates of enterprise and commercialisation. Innovation can increase SME competitiveness and our Strategy has a particular focus upon supporting our advanced manufacturing, process, digital, healthcare and low carbon sectors to innovate.' **Innovation allocation of ERDF** – accounts for £25m/25% of ERDF allocation **City Deal** Innovation central component of Tees Valley City Deal. Key elements include developing TV as:	location of the National Biologics Manufacturing Centre in Tees Valley. 4. Land supply, including an Enterprise Zone - We have a strong and varied land offer through the Tees Valley Enterprise Zone. Our EZ comprises 424 hectares of development land across 12 sites. **Other innovation assets/strengths include:** 1. Tees Valley generates 50% of the UK's petrochemicals GDP. 2. In Wilton International, we have the second largest integrated chemical complex in Europe. 3. SSI in Tees Valley produces 25% of UK steel. 4. Air Products are investing £300m in Tees Valley in one of the world's largest renewable energy plants. 5. Over 9,000 people are employed in the digital and creative industries in Tees Valley. **Nationally significant innovation assets highlighted in EUSIF:** 1. National Biologics Manufacturing Centre £38m(TSB/CPI) 2. National Industrial Biotechnologies Facility (CPI) 3. Wilton Centre (including the High Value Manufacturing Catapult) (TSB/CPI) 4. Thermal Technologies Centre (TATA Steel/CPI) 5. Subsea Training Facility (Modus) 6. Graphene Plant on Teesside 7. Teesside Manufacturing Centre (Teesside University) 8. Research Centre at TWI 9. DigitalCity 10. Teesside University

		1. An Integrated Carbon Efficient Production and Processing Complex 2. A Location for Green Technologies: The Tees Valley is a national and European centre for chemicals, petrochemicals, and steel and is recognised as an area for green technology investment. The Tees Valley will proactively market the area to international green technology investors and this marketing will be supported by UKTI 3. Heat, Carbon and Feedstock Integration. Elements of this include: - Industrial Carbon Capture and Storage: Through this City Deal the Tees Valley will secure the support to take forward industrial carbon capture and storage to sustain local industries and enable the growth of future low carbon industries - District Heating 4. Business and Innovation Support: Key to this will be the establishment of a Tees Valley Business Growth Hub which will provide businesses with a single access point to both national and local support. It will signpost businesses to the most appropriate support available, utilising the range of key local and national partners that operate in the business support arena in the Tees Valley, and provide additional intensive targeted support to help businesses utilise technology better, operate in multiple sectors and access supply chain opportunities. An allocation of £2.4m to establish the Hub has been	11. Durham University

		secured from the Lancaster University RGF4 fund. The Business Growth Programme will address access to finance, R+D and innovation.	
Thames Valley Berkshire	Docs: No identified SS or innovation strategy, although innovation features strongly in EUSIF. Governance: No sub-board with responsibility for innovation	**Growth Deal/SEP** GD focused on 3 key priority areas identified in the LEP's Strategic Economic Plan, with one having innovation focus: 1. Delivering essential housing 2. Enhancing urban connectivity 3. Growing the STEM skills base and enhancing business support Secured £96.9m from the Government's Local Growth Fund. 5 projects funded, with 1 having innovation related focus: 1. Solutions Labs - three state of the art specialist STEM laboratories at Reading, Newbury and Slough Colleges **2015 GD expansion**: extra £10.2m invested in Thames Valley Berkshire between 2016 and 2021. 5 projects announced, with 1 having innovation focus: 1. New Science, Technology, Engineering and Mathematics facilities for young people across the Berkshire area. **EUSIF:** **ERDF allocation to TO1 (innovation):** £4.8m or 39% of ERDF total of £12.3m	**EUSIF** **Summary of key innovation related strengths:** • Just under 50% of the working population are engaged in SOC 1, 2, 3 occupations, which is above the England average. • Strong performance on all the main skills indicators • High concentrations of knowledge based businesses, compared to UK. • Less reliant on the public sector for jobs than the South East. • High employment in 'Priority' sectors. **SEP - key sectors identified:** • Industry sector which accounts for the greatest proportion of businesses in TVB is "professional, scientific & technical"; this accounts for 18.7% of stock in TVB compared to 14.8% England-wide. • TVB's most distinctive sector is "information and communication"; its incidence in TVB (14.1%) is more than double the national average (6.9%).

		EUSIF has 4 priorities under ERDF programme, with innovation featuring as one of these: • Building links between enterprises and research institutions, providing better support to businesses, and investing in incubator space and physical infrastructure **In relation to TO1 (innovation), the objectives of TVB LEP are:** • To build collaborative research between enterprises, research institutions and public institutions • To provide better support to businesses and build vibrant business networks • To invest in incubator and co-working space • To provide appropriate physical infrastructure to enable the commercialisation of research and the growth of innovative, early stage, businesses. • To position TVB for a digital future. **City Deal** Not explicitly focused on innovation, but rather on addressing the skills gaps and unemployment and underemployment of 16-24 year old population.	
The Marches	Docs: No evidence on separate SS/Innovation strategy. Governance: No evidence of innovation sub-group	**Growth Deal/SEP** Focused on 2 key priority areas. 1. Enabling and accelerating new housing and employment sites 2. Growing the local skills and business base	**SEP - Key innovation strengths/assets identified:** **1. Agri-Tech:** • In Shropshire 81% of the land area is devoted to agriculture and 22% of all businesses are in the Agri-technology

		Secured £75.3m from the Government's Local Growth Fund. 2 projects announced for 15/16, neither with innovation focus. **2015 GD extension**: extra £7.7m invested in the Marches area (Herefordshire, Shropshire and Telford & Wrekin) between 2016 and 2021. 2 projects announced, with 1 having innovation focus: 1. To support the development of the higher education centre at Shrewsbury, and to increase opportunity for business access to the excellence in agri-tech at Harper Adams University to help drive innovation and business growth. **EUSIF** **ERDF allocation to TO1 (INNOVATION):** not clear from available documentation LEP set out 5 strategic priorities with 1 having innovation focus: 'Enhancing Competitiveness, Research and Innovation and Enabling Technology.' Contains number of sub-priorities, including: • Improving Enterprise and SME Competitiveness • Smart Research and Development and Innovation • Marches Digital Inclusion and Service Programme	sector that is 3000 businesses. Between them Shropshire and Staffordshire have 50% of the sector businesses in the West Midlands. • Top businesses in the sector include the global HQ and academy for JCB in Staffs and McConnel based in Ludlow. Fullwoods based in North Shropshire is a world leader in robotic milking parlours exports include robotic camel milking parlours to Saudi Arabia. • The Witty Report (Oct 2013) provided an analysis of industry clusters mapped by LEP areas that showed the highest employer location quotient in Agri-Tech in 2012 was in the Marches LEP. **2. Defence and Security:** • The Marches is currently home to a number of key employers in defence and security industry including BAE Systems and Dytecna. The sector is well represented in the Marches, compared to the rest of the UK and is the 4th best represented of all Local Enterprise Partnerships in the country. **3. Advanced Manufacturing:** • The Marches LEP is strongly focussed on the advanced manufacturing industry with 1 in 7 jobs provided in this sector. **4. Environmental Technologies & Services** • As a LEP, the Marches is the second best represented with regard to environmental services and

			technology, with a number of market leading companies and technologically cutting-edge enterprises covering renewable energy, water technology, waste management and pollution control. **Website identified the following strengths in advanced manufacturing and environmental technologies & services:** **1. Environmental Technologies & Services:** one of the fastest growing sectors in the Marches, with more than 65 per cent of environmental technology businesses in the region experiencing growth in the last year 2. Across the Marches and the wider Midlands, the sector is worth around £8.5 billion a year across a broad range of interests including renewables, water technology, waste management and pollution control 3. The sector is supported in the region by the Marches Environmental Technologies Network, which promotes collaborative working and business growth among businesses that provide products and services within the industry. 2. **Advanced Manufacturing**: More than 38,700 are employed in manufacturing in the Marches. Around half of those are involved in the areas of food and drink manufacturing, fabricated metal productions, rubber, polymers and machinery/equipment manufacturing – the Marches' biggest sub-sectors. 3. **Defence and security:** This sector is a key driver for the economy in the Marches, with more than 80 companies in Herefordshire

			alone related to defence and security. It is home to Ministry of Defence operational bases and private sector companies, including those involved in the supply chain.
West of England LEP	Governance: Board is supported by 11 sector groups, including: •Advanced Engineering, Aerospace & Defence; •Health & Life Sciences; •High Tech; •Low Carbon Industries. Docs: No innovation strategy document, but LEP has published a 'sector prospectus' covering its main sectors, which covers 'achievements' 'issues', 'opportunities' and 'proposals' for each sector. Sectors include, high tech, creative and digital, advanced engineering and aerospace, low carbon, etc.	**SEP:** SDP identifies 5 priority growth sectors where the West of England has a sustainable international comparative advantage, and where it will focus its investment. These include: • Advanced Engineering and Aerospace; High Tech; Creative & Digital Industries; Low Carbon and Professional Services. By developing smart specialisation in these sectors, the aim is to outperform the market as a whole, in the medium-to-long term. SEP notes that the growth of these sectors will be achieve through investing in well-evidenced levers of growth: place & infrastructure; people and skills; investment and promotion; and SME business support. **Growth Deal announcement**: 8 schemes to receive funding as part of growth deal agreement, with 4 of these having an innovation focus: • Terabit West: Research & development activity relating to developing broadband infrastructure, & hardware & software technologies for future communications • Bristol Robotics & Bristol Institute of Technology: Provision of start-up and grown-	**SEP reveals the following strengths relating to innovation:** • Large and highly skilled workforce, with 38.6% of the working age population educated to NVQ level 4 or higher. Ranking 7th (excluding London) out of all the LEP areas • 3.7% of employees in high and medium technology manufacturing compared to 3.2% nationally • 4 Universities producing over 10,000 graduates a year. World class research generates approx. £227 million of External Research Income. Strongly engaged with the business sector. Bristol & Bath acknowledged as leading research intensive universities; UWE & Bath Spa recognised for their teaching excellence. • Bristol Robotics Laboratory (BRL) one of the largest in Europe. • Bristol & Bath Science Park, recognised as asset of 'national importance' and home to the National Composites Centre 2 SET squared Business Incubation Centres, part of a partnership of 5 successful business incubators that form the most successful non-US business incubator in the world • The South West represents the largest cluster of Aerospace Industry in the UK.

		on space for technology & knowledge based businesses • Innovation in composites for marine energy: Development of new tidal blade test facility at National Composites Centre, utilising UWE Bristol & University of Bristol strengths. • Further Education Capital Build Programme: investment in learning and training centres across the LEP region, focusing on developing highly skilled workforce in key industries: nuclear technology, advanced engineering, etc. **2015 GD announcement: extra** £18.1m invested in the West of England between 2016 and 2021. 1 with explicit innovation focus, and another focused on infrastructure improvements: 1. Developing Engine Shed Phase 2 in Bristol to meet the high demand for more space for business incubation, offices for businesses to grow into, as well as meeting and collaboration space. Engine Shed is home to, amongst others, a university business incubator which was recently judged to be the best in Europe and second best in the world. **EUSIF** **ERDF allocation to TO1:** No clear separate breakdown for TO1 available in documents.	• The Academic Health Science Network (AHSN), hosted in Bath, chaired by UWE. • Provides following data related to its leading innovation industries: -Advanced Engineering & Aerospace: 23,400 employed, 1.039m GVA - Professional Services: 52,700 employed, £4,020m GVA -Creative & Digital: 15,900 employed, £658.5m GVA -High Tech: 16,400emplyed, £162.5M GVA -Low Carbon: 5,900 employed, £333m GVA

		7 main programmes highlighted as part of EUSIF. Innovation features as one of these. Key activities under 'innovation programme': 1. Creating effective, growth orientated research collaborations between public and private organisations for key sectors and clusters. 2. Creation of an environment and infrastructure which supports growth through research and innovation. 3. Initiatives to stimulate the development of market ready new products and services, business process and innovation.	
Worcester-shire	Docs: No evidence of separate innovation strategy Governance: No evidence of innovation related sub-group	**Growth Deal/SEP** Focused on 3 key priority areas as identified in the LEP's Strategic Economic Plan: 1. Improving connectivity and resilience across the County 2. Enabling employment and housing sites 3. Enhancing skills provision and support for business Secured £47m from the Government's Local Growth Fund. 7 projects funded, with 2 having innovation related focus: 1. Malvern Hills Science Park - Development of space for existing high tech / cyber security business and enabling more space for new businesses on the park. 2. Worcester Tech Park - Development of new space for manufacturing, offices, research and development and logistics	**SEP** **Key innovation related assets/strengths:** • A leading location in terms of advanced manufacturing, agri-tech2 and cyber security/defence/IT. • Worcestershire is ranked as one of the best performing Local Enterprise Partnership (LEP) areas in terms of advanced manufacturing employment. It is also a leading location in terms of the growing cyber security sector and has a strong base of horticulture and food sector businesses. Key world class employers in these sectors include globally recognised brands and companies such as Worcester Bosch, QinetiQ, Brintons, Halfords, Npower, Kanes Foods, Yamazaki Mazak, Malvern Instruments, Morgan Motors and GKN • A growing Higher Education (HE) and Further Education (FE) location, with

		providing and securing jobs and investment. **2015 GD expansion:** extra £7.2m invested in the Worcestershire LEP's between 2016 and 2021. 3 projects announced, none with explicit innovation focus. **EUSIF** **Allocation to ERDF TO1 (innovation): £5m out of £29.2m ERDF (or 17% of total ERDF)** 5 priority areas identified, with 1 having explicit innovation focus: 'Research, Technological Development and Innovation (RTDI) and ICT' 2 programmes identified as part of this: 1. Worcestershire Innovation and R & D Programme 2. Worcestershire Optimising Business ICT and Broadband Programme Innovation and R&D programme to have following indicative activities: • building collaborative research between enterprises, research institutions and public institutions, including through graduate start-up schemes and spin outs; • support to businesses wishing to bring new products and services to the market, • including those linked to the eight great technologies and Worcestershire's growth • sectors;	an excellent base of strongly performing schools. The University of Worcester is recognised as one of the fastest growing universities in the UK and is built around its core strengths of teaching, nursing and health but with rapid expansion in sciences, particularly biological sciences. The county is also home to five FE Colleges providing a range of vocational, academic and work-based provision across the county, as well as private sector training providers. **EUSIF** Key assets identified: • Worcestershire has particular sector strengths in high technology sectors such as advanced manufacturing and cyber security/defence, as well as agri-food • Significant employment in high/medium high technologies

		• support the physical infrastructure for R&D and innovation, including investment in • incubation space and other equipment; • support to encourage social innovation; • support to innovation and R & D infrastructure, e.g. engineering and technology hub; • innovation initiatives (for example, KTPs, graduate placements, contract research, • collaboration, innovation vouchers); • smart specialisation targeting in particular agri-food, along with advanced manufacturing and cyber security/defence.	
Yorks, North Yorks and East Riding	Innovation Docs: No SS/Innovation strategy doc identified. Governance: No innovation related sub-group identified.	**Growth Deal/SEP** GD focused on 4 key priority areas as identified in the LEP's Strategic Economic Plan: 1. Business Growth Investment; 2. Investing in Infrastructure; 3. Creating skilled and inspired people; 4. Ensuring the existing transport network promotes growth and low carbon goals York, North Yorkshire and East Riding LEP secured £110.1m from the Government's Local Growth Fund. 5 project announced, with 1 having explicit innovation focus: 1. National Agri-Food Innovation Campus and York Bio Hub - key	**EUSIF/SEP** Key innovation related assets/strengths: • Strong SME base, many micro-businesses • Large food, agri-tech and agriculture sector • Energy assets - especially biorenewables and power generation • Universities in York (and campuses beyond) • National Agri-Food Innovation Centre outside of York and the University of York's Biohub **Innovation weaknesses:** Within the UK, Yorkshire and Humber has historically had one of the lowest levels of innovation based on R&D investment –

		projects supporting the LEP's ambitions to be a global leader in food, agri-tech, and bio-renewables. **2015 GD expansion:** extra £12.1m invested in the YNYER area between 2016 and 2021. Non with explicit innovation focus, but 1 working on local infrastructure to aid development of agri business: 1. Investment in local roads and junctions to enable the creation of leading agribusiness facilities in Malton town centre. **EUSIF:** **TO1 (INNOVATION) ERDF allocation: £11.75m of £44.21m ERDF total (or 26.5% of ERDF total).** YNYER LEP set itself 5 overarching priorities - 2 having innovation related activities/objectives contained within them: Priority 1: Profitable and ambitious small and micro businesses. Objectives include: • Innovative, growing small businesses • More entrepreneurs who start and grow a business • Ambitious business leaders Priority 2: A global leader in food manufacturing, agri-tech and bio-renewables. Objectives include: • World class innovation in agri-tech and bio-renewables	business R&D has been around 0.5% of GVA14 (compared to 1.5% for England overall) and it has had less patents granted than all but two other English regions.

		• Agriculture and food business connected to new Opportunities • Low Carbon businesses.	
City of Manchester LEP	Docs: No innovation strategy identified Governance: no sub-group covering innovation related activities identified	**SEP** Greater Manchester (GM) Combined Authority and GM LEP jointly own the GM strategy. Key priorities of growth & reform plan include: Securing GM and the North West's place as a major centre for Life Sciences; Enhancing further education facilities, creating more apprenticeships and maximising skills investment; major investment in public transport and highways; reforming public services so that they reduce duplication and are designed around the needs of residents; and the provision of effective business support services. • Specifically in relation to innovation, science and technology, the GM strategy noted the following priorities: - To increase profile & credibility of GM science; - Expand & accelerate the commercialisation of research; - Improve GM's science and technology skills base; - Improve productivity of existing science base; - Bring public, private & academic institutions together to commercialise research & development at pace & scale. **Growth Deal announcement**: The GM LEP secured £476.7m from the	**SEP** In relation to innovation, science and technology the GM strategy highlights the following assets located in the LEP area: - world-leading research and development in areas including advanced materials, health innovation including data intensive healthcare, energy including nuclear, biotechnology, high performance computing and chip design, and interactive technology and robotics; - Nobel-Prize-winning discovery and commercial exploitation of Graphene, supported through the development of a £61 million Graphene Hub; - One of the world's largest clusters of health research, practice and commercial development, along a corridor area that is home to Manchester's universities, hospitals, science park and innovation centres. Example of products developed in GM via these routes, is the Christie's Proton Beam Therapy service.

		Government's Local Growth Fund to support economic growth in the area – £65.1m of new funding confirmed for 2015/16 and £208m for 2016/17 to 2021. 7 projects agreed with Government for co-investment, 2 of which have a strong innovation focus: - £40m life sciences inward investment fund, in partnership with Cheshire & Warrington LEP. - £35m investment programme for further education colleges and further education providers in GM. **2015 GD announcement**: extra £56.6m invested in Greater Manchester between 2016 and 2021.3 projects announced, with 1 having potential innovation benefits: 1. Investment in the Greater Manchester Business Growth Hub to support services to business **EUSIF** ERDF allocation to TO1: Not clear from document. Following Strategic Priorities in relation to Science, Innovation and Knowledge Economy: Placing our city region at the leading edge of science and technology Improving our international competitiveness Building our global brand Delivering an employer-led skills programme.	

		4 Strategic Activities under innovation theme taken forward via the EU Investment Plan: 1. Develop, retain and exploit excellence in GM‟s science/technology/innovation assets 2. Grow GM‟s private sector science/technology businesses base linked to GM‟s areas of excellence 3. Support innovative solutions/emerging technologies to tackle societal challenges on the back of GM‟s science/technology excellence 4. Science & Technology skills (via ESF)	

D7: Broader Environment - Broadband infrastructure

Take-up of lines by speed, % split, 2014

Broadband			
LEP	**Region**	**Classification**	**Lines < 2 Mbit/s**
Cumbria	NW	Rural	11.7
The Marches	WM	Rural	9.8
New Anglia	EoE	3rd Tier	8.9
Greater Lincolnshire	EM (part YH)	Rural	8.4
Gloucestershire	SW	Urban-rural	8.3
Cornwall and the Isles of Scilly	SW	Rural	8.1
Heart of the South West	SW	3rd Tier	7.8
Worcestershire	WM	Urban-rural	7.8
York and North Yorkshire	YH	Rural	7.5
Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier	7.3
Stoke-on-Trent and Staffordshire	WM	3rd Tier	7.3
Sheffield City Region	YH (part EM)	2nd Tier	7.1
South East Midlands	EM (part SE & EoE)	3rd Tier	7.0
Cheshire and Warrington	NW	3rd Tier	7.0
Northamptonshire	EM	3rd Tier	6.7
North Eastern	NE	2nd Tier	6.6
South East	SE (part EoE)	Lon C-R	6.5
AVERAGE			6.4
Swindon and Wiltshire	SW	3rd Tier	6.3
Derby, Derbyshire, Nottingham and Nottinghamshire,	EM	2nd Tier	6.2
Buckinghamshire Thames Valley	SE	Lon C-R	6.2
Dorset	SW	3rd Tier	6.2
Humber	YH	3rd Tier	6.2
Coventry and Warwickshire	WM	3rd Tier	6.2
Leeds City Region	YH	2nd Tier	6.1
Oxfordshire	SE	Rural	6.0
Tees Valley	NE	3rd Tier	5.9
Thames Valley Berkshire	SE	Lon C-R	5.9
Lancashire	NW	3rd Tier	5.8
Leicester and Leicestershire	EM	2nd Tier	5.3
Enterprise M3	SE	Lon C-R	5.2
Hertfordshire	EoE	Lon C-R	4.9
Solent	SE	3rd Tier	4.9
Greater Birmingham and Solihull	WM	2nd Tier	4.8
Coast to Capital	SE (part London)	Lon C-R	4.4
Liverpool City Region	NW	2nd Tier	4.4
West of England	SW	2nd Tier	4.2
Greater Manchester	NW	2nd Tier	3.9
Black Country	WM	2nd Tier	3.1
London	L	Capital	2.6

Source: OFCOM; Notes: For a number of LEP areas county level data have been apportioned to relevant LEP districts based on an estimated share of premises figure calculated from a household count from the 2011 Census and a business count of local units from the UK Business Counts data set.

Take-up of lines, % that are 2-10 Mbit/s, 2014

Broadband			
LEP	**Region**	**Classification**	**Lines 2-10 Mbit/s**
Cumbria	NW	Rural	50.5
The Marches	WM	Rural	44.8
Worcestershire	WM	Urban-rural	44.5
Heart of the South West	SW	3rd Tier	43.1
New Anglia	EoE	3rd Tier	42.9
York and North Yorkshire	YH	Rural	40.7
Stoke-on-Trent and Staffordshire	WM	3rd Tier	40.3
Gloucestershire	SW	Urban-rural	40.0
Swindon and Wiltshire	SW	3rd Tier	39.8
Sheffield City Region	YH (part EM)	2nd Tier	39.6
Cheshire and Warrington	NW	3rd Tier	38.9
Buckinghamshire Thames Valley	SE	Lon C-R	38.7
Humber	YH	3rd Tier	38.5
Cornwall and the Isles of Scilly	SW	Rural	38.4
North Eastern	NE	2nd Tier	38.4
Greater Lincolnshire	EM (part YH)	Rural	37.6
Lancashire	NW	3rd Tier	37.6
Oxfordshire	SE	Rural	37.5
South East	SE (part EoE)	Lon C-R	37.1
Dorset	SW	3rd Tier	36.7
Leeds City Region	YH	2nd Tier	36.6
AVERAGE			36.3
Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier	35.7
Coventry and Warwickshire	WM	3rd Tier	35.2
Northamptonshire	EM	3rd Tier	35.1
South East Midlands	EM (part SE & EoE)	3rd Tier	34.2
Derby, Derbyshire, Nottingham and Nottinghamshire,	EM	2nd Tier	33.7
Greater Birmingham and Solihull	WM	2nd Tier	32.9
Solent	SE	3rd Tier	32.8
Enterprise M3	SE	Lon C-R	32.8
Greater Manchester	NW	2nd Tier	32.3
Coast to Capital	SE (part London)	Lon C-R	32.3
Thames Valley Berkshire	SE	Lon C-R	31.8
Leicester and Leicestershire	EM	2nd Tier	31.8
Liverpool City Region	NW	2nd Tier	30.0
Black Country	WM	2nd Tier	29.4
West of England	SW	2nd Tier	29.4
London	L	Capital	29.0
Hertfordshire	EoE	Lon C-R	28.4
Tees Valley	NE	3rd Tier	26.1

Source: OFCOM

Take-up of lines, % that are 10-30 Mbit/s, 2014

Broadband			
LEP	**Region**	**Classification**	**Lines 10-30 Mbit/s**
Humber	YH	3rd Tier	36.2
London	L	Capital	34.1
York and North Yorkshire	YH	Rural	34.1
Cornwall and the Isles of Scilly	SW	Rural	33.3
Liverpool City Region	NW	2nd Tier	32.7
Lancashire	NW	3rd Tier	32.4
Dorset	SW	3rd Tier	31.2
Heart of the South West	SW	3rd Tier	30.3
Coast to Capital	SE (part London)	Lon C-R	29.8
South East	SE (part EoE)	Lon C-R	29.6
West of England	SW	2nd Tier	29.5
Leicester and Leicestershire	EM	2nd Tier	29.3
Black Country	WM	2nd Tier	29.3
North Eastern	NE	2nd Tier	29.3
Cumbria	NW	Rural	29.1
Solent	SE	3rd Tier	28.8
AVERAGE			28.8
Sheffield City Region	YH (part EM)	2nd Tier	28.8
Leeds City Region	YH	2nd Tier	28.7
Greater Manchester	NW	2nd Tier	28.6
Derby, Derbyshire, Nottingham and Nottinghamshire,	EM	2nd Tier	28.6
New Anglia	EoE	3rd Tier	28.6
Oxfordshire	SE	Rural	28.5
Swindon and Wiltshire	SW	3rd Tier	28.5
Northamptonshire	EM	3rd Tier	28.4
Buckinghamshire Thames Valley	SE	Lon C-R	28.2
Cheshire and Warrington	NW	3rd Tier	27.8
Greater Lincolnshire	EM (part YH)	Rural	27.6
Greater Birmingham and Solihull	WM	2nd Tier	27.5
Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier	27.4
Enterprise M3	SE	Lon C-R	27.3
Coventry and Warwickshire	WM	3rd Tier	27.3
South East Midlands	EM (part SE & EoE)	3rd Tier	26.9
Gloucestershire	SW	Urban-rural	26.8
The Marches	WM	Rural	26.5
Thames Valley Berkshire	SE	Lon C-R	25.9
Stoke-on-Trent and Staffordshire	WM	3rd Tier	25.3
Hertfordshire	EoE	Lon C-R	25.2
Tees Valley	NE	3rd Tier	23.8
Worcestershire	WM	Urban-rural	22.7

Source: OFCOM

Take-up of lines, % that are >30 Mbit/s, 2014

Broadband			
LEP	**Region**	**Classification**	**Lines > 30 Mbit/s**
Tees Valley	NE	3rd Tier	44.3
Hertfordshire	EoE	Lon C-R	41.4
Black Country	WM	2nd Tier	38.2
West of England	SW	2nd Tier	36.9
Thames Valley Berkshire	SE	Lon C-R	36.4
Greater Manchester	NW	2nd Tier	35.2
Greater Birmingham and Solihull	WM	2nd Tier	34.8
Enterprise M3	SE	Lon C-R	34.7
London	L	Capital	34.3
Leicester and Leicestershire	EM	2nd Tier	33.7
Coast to Capital	SE (part London)	Lon C-R	33.6
Solent	SE	3rd Tier	33.5
Liverpool City Region	NW	2nd Tier	33.0
South East Midlands	EM (part SE & EoE)	3rd Tier	31.9
Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier	31.5
Coventry and Warwickshire	WM	3rd Tier	31.4
Northamptonshire	EM	3rd Tier	29.9
Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier	29.6
AVERAGE			28.5
Leeds City Region	YH	2nd Tier	28.5
Oxfordshire	SE	Rural	28.0
Stoke-on-Trent and Staffordshire	WM	3rd Tier	27.1
Buckinghamshire Thames Valley	SE	Lon C-R	26.9
South East	SE (part EoE)	Lon C-R	26.8
Cheshire and Warrington	NW	3rd Tier	26.4
Greater Lincolnshire	EM (part YH)	Rural	26.3
Dorset	SW	3rd Tier	25.9
North Eastern	NE	2nd Tier	25.8
Swindon and Wiltshire	SW	3rd Tier	25.4
Worcestershire	WM	Urban-rural	24.9
Gloucestershire	SW	Urban-rural	24.8
Sheffield City Region	YH (part EM)	2nd Tier	24.5
Lancashire	NW	3rd Tier	24.2
Cornwall and the Isles of Scilly	SW	Rural	20.2
New Anglia	EoE	3rd Tier	19.6
Humber	YH	3rd Tier	19.1
The Marches	WM	Rural	19.0
Heart of the South West	SW	3rd Tier	18.8
York and North Yorkshire	YH	Rural	17.8
Cumbria	NW	Rural	8.8

Source: OFCOM

Appendix E: LEPs' Comparative Innovation Strengths – Ranking Tables by Element and Indicator

LEP areas: ranking tables by element and key indicators

Money

Table E1: R&D expenditure – Business Enterprise R & D expenditure (BERD) by FTE, 2013, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Coventry and Warwickshire	WM	3rd Tier
2	Hertfordshire	EoE	Lon CR
3	Cheshire and Warrington	NW	3rd Tier
4	Thames Valley Berkshire	SE	Lon CR
5	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
6	Buckinghamshire Thames Valley	SE	Lon CR
7	Enterprise M3	SE	Lon CR
8	Swindon and Wiltshire	SW	3rd Tier
9	Oxfordshire	SE	3rd Tier
10	Solent	SE	3rd Tier
11	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
12	New Anglia	EoE	3rd Tier
13	Gloucestershire	SW	Urban-rural
14	West of England	SW	2nd Tier
15	South East Midlands	EM (part SE & EoE)	3rd Tier
16	Worcestershire	WM	Urban-rural
17	South East	SE (part EoE)	Lon CR
18	Northamptonshire	EM	3rd Tier
19	Liverpool City Region	NW	2nd Tier
20	Leicester and Leicestershire	EM	2nd Tier
21	Coast to Capital	SE (part London)	Lon CR
22	York, North Yorkshire and East Riding	YH	Rural
23	Tees Valley	NE	3rd Tier
24	Stoke-on-Trent and Staffordshire	WM	3rd Tier
25	Leeds City Region	YH	2nd Tier
26	Dorset	SW	3rd Tier
27	Lancashire	NW	3rd Tier

28	Greater Birmingham and Solihull	WM	2nd Tier
29	Humber	YH	3rd Tier
30	Heart of the South West	SW	3rd Tier
31	Cumbria	NW	Rural
32	North Eastern	NE	2nd Tier
33	London	London	Capital
34	The Marches	WM	Rural
35	Greater Manchester	NW	2nd Tier
36	Sheffield City Region	YH (part EM)	2nd Tier
37	Black Country	WM	2nd Tier
38	Greater Lincolnshire	EM (part YH)	Rural
39	Cornwall and Isles of Scilly	SW	Rural

Source: ONS

Table E2: Innovate UK grants – Innovate UK - Total Grants, £s per FTE, 2010-15, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Tees Valley	NE	3rd Tier
2	Coventry and Warwickshire	WM	3rd Tier
3	Oxfordshire	SE	Rural
4	West of England	SW	2nd Tier
5	North Eastern	NE	2nd Tier
6	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
7	Sheffield City Region	YH (part EM)	2nd Tier
8	South East Midlands	EM (part SE & EoE)	3rd Tier
9	Enterprise M3	SE	Lon CR
10	Gloucestershire	SW	Urban-rural
11	London	London	Capital
12	Solent	SE	3rd Tier
13	Leicester and Leicestershire	EM	2nd Tier
14	Heart of the South West	SW	3rd Tier
15	Liverpool City Region	NW	2nd Tier
16	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
17	Swindon and Wiltshire	SW	3rd Tier
18	Thames Valley Berkshire	SE	Lon CR
19	Hertfordshire	EoE	Lon CR
20	Buckinghamshire Thames Valley	SE	Lon CR
21	Greater Birmingham and Solihull	WM	2nd Tier
22	Worcestershire	WM	Urban-rural
23	York, North Yorkshire and East Riding	YH	Rural
24	Coast to Capital	SE (part London)	Lon CR
25	Leeds City Region	YH	2nd Tier
26	Dorset	SW	3rd Tier
27	Greater Manchester	NW	2nd Tier

28	South East	SE (part EoE)	Lon CR
29	Cornwall and Isles of Scilly	SW	Rural
30	Cheshire and Warrington	NW	3rd Tier
31	Stoke-on-Trent and Staffordshire	WM	3rd Tier
32	The Marches	WM	Rural
33	New Anglia	EoE	3rd Tier
34	Greater Lincolnshire	EM (part YH)	Rural
35	Lancashire	NW	3rd Tier
36	Northamptonshire	EM	3rd Tier
37	Humber	YH	3rd Tier
38	Black Country	WM	2nd Tier
39	Cumbria	NW	Rural

Source: Innovate UK

Talent

Table E3: 3. % of all in employment who are in 'science, research, engineering and technology' professions and associated professions, July 2013 – June 2014, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Oxfordshire	SE	Rural
2	Thames Valley Berkshire	SE	Lon CR
3	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
4	West of England	SW	2nd Tier
5	Enterprise M3	SE	Lon CR
6	Cheshire and Warrington	NW	3rd Tier
7	Swindon and Wiltshire	SW	3rd Tier
8	Buckinghamshire Thames Valley	SE	Lon CR
9	Hertfordshire	EoE	Lon CR
10	Solent	SE	3rd Tier
11=	Coventry and Warwickshire	WM	3rd Tier
11=	Worcestershire	WM	Urban-rural
13=	Cumbria	NW	Rural
13=	Leicester and Leicestershire	EM	2nd Tier
13=	London	London	Capital
16	Gloucestershire	SW	Urban-rural
17	South East Midlands	EM (part SE & EoE)	3rd Tier
18	Coast to Capital	SE (part London)	Lon CR
19	York, North Yorkshire and East Riding	YH	Rural
20=	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
20=	Dorset	SW	3rd Tier
20=	The Marches	WM	Rural
23	Tees Valley	NE	3rd Tier
24=	Greater Manchester	NW	2nd Tier
24=	Greater Birmingham and Solihull	WM	2nd Tier
26	Lancashire	NW	3rd Tier
27	South East	SE (part EoE)	Lon CR
28	Leeds City Region	YH	2nd Tier
29=	New Anglia	EoE	3rd Tier

29=	North Eastern	NE	2nd Tier
29=	Stoke-on-Trent and Staffordshire	WM	3rd Tier
32=	Sheffield City Region	YH (part EM)	2nd Tier
32=	Liverpool City Region	NW	2nd Tier
34=	Heart of the South West	SW	3rd Tier
34=	Northamptonshire	EM	3rd Tier
36	Humber	YH	3rd Tier
37	Cornwall and Isles of Scilly	SW	Rural
38	Greater Lincolnshire	EM (part YH)	Rural
39	Black Country	WM	2nd Tier

Source: Annual Population Survey

Table E4: % of residents qualified to level 'NVQ 4+', 2013, Highest is ranked '1'

Rank	LEP	Region	Classification
1	London	London	Capital
2	Oxfordshire	SE	Rural
3	Buckinghamshire Thames Valley	SE	Lon CR
4	Thames Valley Berkshire	SE	Lon CR
5	Enterprise M3	SE	Lon CR
6	Hertfordshire	EoE	Lon CR
7	Coast to Capital	SE (part London)	Lon CR
8	Cheshire and Warrington	NW	3rd Tier
9	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
10	West of England	SW	2nd Tier
11	York, North Yorkshire and East Riding	YH	Rural
12	Coventry and Warwickshire	WM	3rd Tier
13=	Worcestershire	WM	Urban-rural
13=	Gloucestershire	SW	Urban-rural
15	Swindon and Wiltshire	SW	3rd Tier
16=	South East Midlands	EM (part SE & EoE)	3rd Tier
16=	Dorset	SW	3rd Tier
18	Solent	SE	3rd Tier
19	Cornwall and Isles of Scilly	SW	Rural
20	Greater Manchester	NW	2nd Tier
21	Leicester and Leicestershire	EM	2nd Tier
22	Leeds City Region	YH	2nd Tier
23=	Heart of the South West	SW	3rd Tier
23=	Northamptonshire	EM	3rd Tier
25	Cumbria	NW	Rural
26	South East	SE (part EoE)	Lon CR
27	The Marches	WM	Rural
28	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
29	New Anglia	EoE	3rd Tier
30	Lancashire	NW	3rd Tier
31	North Eastern	NE	2nd Tier
32	Sheffield City Region	YH (part EM)	2nd Tier

33	Greater Birmingham and Solihull	WM	2nd Tier
34=	Tees Valley	NE	3rd Tier
34=	Liverpool City Region	NW	2nd Tier
36	Stoke-on-Trent and Staffordshire	WM	3rd Tier
37	Humber	YH	3rd Tier
38	Greater Lincolnshire	EM (part YH)	Rural
39	Black Country	WM	2nd Tier

Source: Annual Population Survey

Table E5: Number of full time postgrads who are non-UK, enrolments 2013/14, Highest is ranked '1'

Rank	LEP	Region	Classification
1	London	London	Capital
2	North Eastern	NE	2nd Tier
3	Greater Birmingham and Solihull	WM	2nd Tier
4	Leeds City Region	YH	2nd Tier
5	Greater Manchester	NW	2nd Tier
6	Coventry and Warwickshire	WM	3rd Tier
7	Oxfordshire	SE	Rural
8	Sheffield City Region	YH (part EM)	2nd Tier
9	Solent	SE	3rd Tier
10	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
11	South East Midlands	EM (part SE & EoE)	3rd Tier
12	Leicester and Leicestershire	EM	2nd Tier
13	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
14	West of England	SW	2nd Tier
15	South East	SE (part EoE)	Lon CR
16	Enterprise M3	SE	Lon CR
17	Heart of the South West	SW	3rd Tier
18	Coast to Capital	SE (part London)	Lon CR
19	Liverpool City Region	NW	2nd Tier
20	Lancashire	NW	3rd Tier
21	York, North Yorkshire and East Riding	YH	Rural
22	New Anglia	EoE	3rd Tier
23	Thames Valley Berkshire	SE	Lon CR
24	Humber	YH	3rd Tier
25	Stoke-on-Trent and Staffordshire	WM	3rd Tier
26	Dorset	SW	3rd Tier
27	Hertfordshire	EoE	Lon CR
28	Greater Lincolnshire	EM (part YH)	Rural
29	Black Country	WM	2nd Tier
30	Cheshire and Warrington	NW	3rd Tier

31	Northamptonshire	EM	3rd Tier
32	Buckinghamshire Thames Valley	SE	Lon CR
33	Tees Valley	NE	3rd Tier
34	Gloucestershire	SW	Urban-rural
35	Worcestershire	WM	Urban-rural
36	Cumbria	NW	Rural
37	Cornwall and Isles of Scilly	SW	Rural
38	The Marches	WM	Rural
39	Swindon and Wiltshire	SW	3rd Tier

Source: HESA

Table E6: Number of STEM first degrees with honours, qualifiers, 2013-14, Highest is ranked '1'

Rank	LEP	Region	Classification
1	London	London	Capital
2	Leeds City Region	YH	2nd Tier
3	Greater Manchester	NW	2nd Tier
4	North Eastern	NE	2nd Tier
5	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
6	South East	SE (part EoE)	Lon CR
7	Solent	SE	3rd Tier
8	Sheffield City Region	YH (part EM)	2nd Tier
9	Liverpool City Region	NW	2nd Tier
10	West of England	SW	2nd Tier
11	Lancashire	NW	3rd Tier
12	Greater Birmingham and Solihull	WM	2nd Tier
13	Heart of the South West	SW	3rd Tier
14	Leicester and Leicestershire	EM	2nd Tier
15	Coventry and Warwickshire	WM	3rd Tier
16	South East Midlands	EM (part SE & EoE)	3rd Tier
17	Coast to Capital	SE (part London)	Lon CR
18	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
19	Stoke-on-Trent and Staffordshire	WM	3rd Tier
20	Tees Valley	NE	3rd Tier
21	Enterprise M3	SE	Lon CR
22	Oxfordshire	SE	Rural
23	Hertfordshire	EoE	Lon CR
24	New Anglia	EoE	3rd Tier
25	Dorset	SW	3rd Tier
26	Greater Lincolnshire	EM (part YH)	Rural
27	Black Country	WM	2nd Tier

28	York, North Yorkshire and East Riding	YH	Rural
29	Cheshire and Warrington	NW	3rd Tier
30	Humber	YH	3rd Tier
31	Thames Valley Berkshire	SE	Lon CR
32	Worcestershire	WM	Urban-rural
33	Gloucestershire	SW	Urban-rural
34	Buckinghamshire Thames Valley	SE	Lon CR
35	Northamptonshire	EM	3rd Tier
36	Cumbria	NW	Rural
37	The Marches	WM	Rural
38	Cornwall and Isles of Scilly	SW	Rural
39	Swindon and Wiltshire	SW	3rd Tier

Source: HESA

Table E7: Number of STEM Doctorates (that meet criteria for a research based award), 2013-14, Highest is ranked '1'

Rank	LEP	Region	Classification
1	London	London	Capital
2	Greater Manchester	NW	2nd Tier
3	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
4	Oxfordshire	SE	Rural
5	Leeds City Region	YH	2nd Tier
6	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
7	West of England	SW	2nd Tier
8	North Eastern	NE	2nd Tier
9	Sheffield City Region	YH (part EM)	2nd Tier
10	Leicester and Leicestershire	EM	2nd Tier
11	Greater Birmingham and Solihull	WM	2nd Tier
12	Solent	SE	3rd Tier
13	Liverpool City Region	NW	2nd Tier
14	Enterprise M3	SE	Lon CR
15	Coventry and Warwickshire	WM	3rd Tier
16	Heart of the South West	SW	3rd Tier
17	South East Midlands	EM (part SE & EoE)	3rd Tier
18	New Anglia	EoE	3rd Tier
19	York, North Yorkshire and East Riding	YH	Rural
20	South East	SE (part EoE)	Lon CR
21	Thames Valley Berkshire	SE	Lon CR
22	Lancashire	NW	3rd Tier
23	Coast to Capital	SE (part London)	Lon CR
24	Humber	YH	3rd Tier
25	Hertfordshire	EoE	Lon CR

26	Stoke-on-Trent and Staffordshire	WM	3rd Tier
27	Greater Lincolnshire	EM (part YH)	Rural
28	Tees Valley	NE	3rd Tier
29=	Black Country	WM	2nd Tier
29=	Dorset	SW	3rd Tier
31	Gloucestershire	SW	Urban-rural
32	Buckinghamshire Thames Valley	SE	Lon CR
33=	Northamptonshire	EM	3rd Tier
33=	Cumbria	NW	Rural
35	Cheshire and Warrington	NW	3rd Tier
36	The Marches	WM	Rural
37=	Worcestershire	WM	Urban-rural
37=	Cornwall and Isles of Scilly	SW	Rural
37=	Swindon and Wiltshire	SW	3rd Tier

Source: HESA; Notes: Worcestershire, Cornwall and Isles of Scilly, and Swindon and Wiltshire, each have zero doctorates.

Knowledge assets

Table E8: Inventor population (with patents 5 to 10 years old), (up to October 2014), Highest is ranked '1'

Rank	LEP	Region	Classification
1	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
2	Thames Valley Berkshire	SE	Lon CR
3	Enterprise M3	SE	Lon CR
4	South East	SE (part EoE)	Lon CR
5	Oxfordshire	SE	Rural
6	Solent	SE	3rd Tier
7	West of England	SW	2nd Tier
8	South East Midlands	EM (part SE & EoE)	3rd Tier
9	Cheshire and Warrington	NW	3rd Tier
10	Leeds City Region	YH	2nd Tier
11	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
12	Swindon and Wiltshire	SW	3rd Tier
13	Coast to Capital	SE (part London)	Lon CR
14	New Anglia	EoE	3rd Tier
15	Greater Manchester	NW	2nd Tier
16	London	London	Capital
17	Greater Birmingham and Solihull	WM	2nd Tier
18	Sheffield City Region	YH (part EM)	2nd Tier
19	Coventry and Warwickshire	WM	3rd Tier
20	Leicester and Leicestershire	EM	2nd Tier
21	York, North Yorkshire and East Riding	YH	Rural
22	Heart of the South West	SW	3rd Tier
23	Gloucestershire	SW	Urban-rural
24=	Hertfordshire	EoE	Lon CR
24=	North Eastern	NE	2nd Tier
26	Buckinghamshire Thames Valley	SE	Lon CR
27	Lancashire	NW	3rd Tier
28	Dorset	SW	3rd Tier
29	Liverpool City Region	NW	2nd Tier
30	Worcestershire	WM	Urban-rural
31	Northamptonshire	EM	3rd Tier
32	Stoke-on-Trent and Staffordshire	WM	3rd Tier
33	Humber	YH	3rd Tier
34	Greater Lincolnshire	EM (part YH)	Rural
35	The Marches	WM	Rural
36	Cumbria	NW	Rural
37	Tees Valley	NE	3rd Tier
38	Black Country	WM	2nd Tier
39	Cornwall and Isles of Scilly	SW	Rural

Source: USPTO and Espacenet

Table E9: Total Publication Output – ("past 2 years"), Highest is ranked '1'

Rank	LEP	Region	Classification
1	London	London	Capital
2	Leeds City Region	YH	2nd Tier
3	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
4	Solent	SE	3rd Tier
5	Oxfordshire	SE	Rural
6	West of England	SW	2nd Tier
7	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
8	North Eastern	NE	2nd Tier
9	Greater Manchester	NW	2nd Tier
10	Coventry and Warwickshire	WM	3rd Tier
11	Heart of the South West	SW	3rd Tier
12	Greater Birmingham and Solihull	WM	2nd Tier
13	Leicester and Leicestershire	EM	2nd Tier
14	York, North Yorkshire and East Riding	YH	Rural
15	Sheffield City Region	YH (part EM)	2nd Tier
16	South East Midlands	EM (part SE & EoE)	3rd Tier
17	Thames Valley Berkshire	SE	Lon CR
18	Liverpool City Region	NW	2nd Tier
19	Enterprise M3	SE	Lon CR
20	South East	SE (part EoE)	Lon CR
21	Lancashire	NW	3rd Tier
22	Coast to Capital	SE (part London)	Lon CR
23	New Anglia	EoE	3rd Tier
24	Cheshire and Warrington	NW	3rd Tier
25	Humber	YH	3rd Tier
26	Stoke-on-Trent and Staffordshire	WM	3rd Tier
27	Dorset	SW	3rd Tier
28	Cornwall and Isles of Scilly	SW	Rural
29	Black Country	WM	2nd Tier
30	Tees Valley	NE	3rd Tier
31	Hertfordshire	EoE	Lon CR
32	Greater Lincolnshire	EM (part YH)	Rural
33	Swindon and Wiltshire	SW	3rd Tier
34	The Marches	WM	Rural
35	Cumbria	NW	Rural
36	Gloucestershire	SW	Urban-rural
37	Buckinghamshire Thames Valley	SE	Lon CR
38	Northamptonshire	EM	3rd Tier
39	Worcestershire	WM	Urban-rural

Source: Scopus, institutional repositories and PubMed

Table E10: HE-BCI – Total Reported Income per HE Academic FTE - 2010/11 - 2012/13 - 3 year average, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Hertfordshire	EoE	Lon CR
2	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
3	Oxfordshire	SE	Rural
4	Coventry and Warwickshire	WM	3rd Tier
5	York, North Yorkshire and East Riding	YH	Rural
6	Liverpool City Region	NW	2nd Tier
7	Leicester and Leicestershire	EM	2nd Tier
8	North Eastern	NE	2nd Tier
9	Leeds City Region	YH	2nd Tier
10	London	London	Capital
11	Solent	SE	3rd Tier
12	Black Country	WM	2nd Tier
13	The Marches	WM	Rural
14	Humber	YH	3rd Tier
15	South East	SE (part EoE)	Lon CR
16	Sheffield City Region	YH (part EM)	2nd Tier
17	Lancashire	NW	3rd Tier
18	Thames Valley Berkshire	SE	Lon CR
19	Heart of the South West	SW	3rd Tier
20	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
21	Greater Birmingham and Solihull	WM	2nd Tier
22	Greater Manchester	NW	2nd Tier
23	West of England	SW	2nd Tier
24	New Anglia	EoE	3rd Tier
24	Tees Valley	NE	3rd Tier
26	Enterprise M3	SE	Lon CR
27	Stoke-on-Trent and Staffordshire	WM	3rd Tier
28	Cornwall and Isles of Scilly	SW	Rural
29	Northamptonshire	EM	3rd Tier
30	South East Midlands	EM (part SE & EoE)	3rd Tier
31	Cumbria	NW	Rural
32	Greater Lincolnshire	EM (part YH)	Rural
33	Coast to Capital	SE (part London)	Lon CR
34	Buckinghamshire Thames Valley	SE	Lon CR
35	Dorset	SW	3rd Tier
36	Cheshire and Warrington	NW	3rd Tier
37	Worcestershire	WM	Urban-rural
38	Gloucestershire	SW	Urban-rural
39	Swindon and Wiltshire	SW	3rd Tier

Source: HE-BCI

Structures and Incentives

Table E11: % of FTE in 9 of 11 Industrial Strategy Sectors, 2012, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Thames Valley Berkshire	SE	Lon CR
2	Oxfordshire	SE	Rural
3	Hertfordshire	EoE	Lon CR
4	Enterprise M3	SE	Lon CR
5	Coventry and Warwickshire	WM	3rd Tier
6	London	London	Capital
7	Buckinghamshire Thames Valley	SE	Lon CR
8	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
9	Cheshire and Warrington	NW	3rd Tier
10	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
11	West of England	SW	2nd Tier
12	Solent	SE	3rd Tier
13	Greater Birmingham and Solihull	WM	2nd Tier
14	Swindon and Wiltshire	SW	3rd Tier
15	South East Midlands	EM (part SE & EoE)	3rd Tier
16	Greater Manchester	NW	2nd Tier
17	Coast to Capital	SE (part London)	Lon CR
18	Leicester and Leicestershire	EM	2nd Tier
19	South East	SE (part EoE)	Lon CR
20	Lancashire	NW	3rd Tier
21	Gloucestershire	SW	Urban-rural
22	Tees Valley	NE	3rd Tier
23	Leeds City Region	YH	2nd Tier
24	Sheffield City Region	YH (part EM)	2nd Tier
25	Liverpool City Region	NW	2nd Tier
26	The Marches	WM	Rural
27	Worcestershire	WM	Urban-rural
28	Humber	YH	3rd Tier
29	Northamptonshire	EM	3rd Tier
30	Dorset	SW	3rd Tier
31	Greater Lincolnshire	EM (part YH)	Rural
32	Heart of the South West	SW	3rd Tier
33	York, North Yorkshire and East Riding	YH	Rural
34	New Anglia	EoE	3rd Tier
35	North Eastern	NE	2nd Tier
36	Stoke-on-Trent and Staffordshire	WM	3rd Tier
37	Black Country	WM	2nd Tier
38	Cornwall and Isles of Scilly	SW	Rural
39	Cumbria	NW	Rural

Source: Enterprise Research Centre

Table E12: % of FTE in the 5 Science & Technology Sectors, ONS definitions, 2013, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Oxfordshire	SE	Rural
2	Thames Valley Berkshire	SE	Lon CR
3	West of England	SW	2nd Tier
4	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
5	Enterprise M3	SE	Lon CR
6	Solent	SE	3rd Tier
7	North Eastern	NE	2nd Tier
8	Gloucestershire	SW	Urban-rural
9	Coventry and Warwickshire	WM	3rd Tier
10	Tees Valley	NE	3rd Tier
11	Liverpool City Region	NW	2nd Tier
12	London	London	Capital
13	Buckinghamshire Thames Valley	SE	Lon CR
14	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
15	Heart of the South West	SW	3rd Tier
16	Cheshire and Warrington	NW	3rd Tier
17	Coast to Capital	SE (part London)	Lon CR
18	Swindon and Wiltshire	SW	3rd Tier
19	Greater Birmingham and Solihull	WM	2nd Tier
20	Lancashire	NW	3rd Tier
21	Dorset	SW	3rd Tier
22	Sheffield City Region	YH (part EM)	2nd Tier
23	South East Midlands	EM (part SE & EoE)	3rd Tier
24	Greater Manchester	NW	2nd Tier
25	Worcestershire	WM	Urban-rural
26	Leicester and Leicestershire	EM	2nd Tier
27	Leeds City Region	YH	2nd Tier
28	Hertfordshire	EoE	Lon CR
29	Humber	YH	3rd Tier
30	Stoke-on-Trent and Staffordshire	WM	3rd Tier
31	The Marches	WM	Rural
32	York, North Yorkshire and East Riding	YH	Rural
33	South East	SE (part EoE)	Lon CR
34	Northamptonshire	EM	3rd Tier
35	New Anglia	EoE	3rd Tier
36	Cumbria	NW	Rural
37	Black Country	WM	2nd Tier
38	Greater Lincolnshire	EM (part YH)	Rural
39	Cornwall and Isles of Scilly	SW	Rural

Source: Business Register and Employment Survey

Broader environment

Table E13: Net Business Birth and Death Rate, 2012, Highest is ranked '1'

Rank	LEP	Region	Classification
1	London	London	Capital
2	Thames Valley Berkshire	SE	Lon CR
3	South East Midlands	EM (part SE & EoE)	3rd Tier
4	Northamptonshire	EM	3rd Tier
5	Tees Valley	NE	3rd Tier
6	West of England	SW	2nd Tier
7	Cheshire and Warrington	NW	3rd Tier
8	Liverpool City Region	NW	2nd Tier
9	Swindon and Wiltshire	SW	3rd Tier
10	Enterprise M3	SE	Lon CR
11	Hertfordshire	EoE	Lon CR
12	Oxfordshire	SE	Rural
13	Greater Manchester	NW	2nd Tier
14	South East	SE (part EoE)	Lon CR
15	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
16	Leicester and Leicestershire	EM	2nd Tier
17	Coast to Capital	SE (part London)	Lon CR
18	Leeds City Region	YH	2nd Tier
19	Coventry and Warwickshire	WM	3rd Tier
20	Black Country	WM	2nd Tier
21	Buckinghamshire Thames Valley	SE	Lon CR
22	North Eastern	NE	2nd Tier
23	Greater Birmingham and Solihull	WM	2nd Tier
24	Solent	SE	3rd Tier
25	Gloucestershire	SW	Urban-rural
26	Stoke-on-Trent and Staffordshire	WM	3rd Tier
27	Greater Lincolnshire	EM (part YH)	Rural
28	York, North Yorkshire and East Riding	YH	Rural
29	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
30	Sheffield City Region	YH (part EM)	2nd Tier
31	Cumbria	NW	Rural
32	The Marches	WM	Rural
33	Dorset	SW	3rd Tier
34	Cornwall and Isles of Scilly	SW	Rural
35	New Anglia	EoE	3rd Tier
36	Humber	YH	3rd Tier
37	Heart of the South West	SW	3rd Tier
38	Worcestershire	WM	Urban-rural
39	Lancashire	NW	3rd Tier

Source: ONS Business Demography

Table E14: Employment rates, 16-64s, October 2013 – September 2014, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Hertfordshire	EoE	Lon CR
2	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
3	Gloucestershire	SW	Urban-rural
4=	Buckinghamshire Thames Valley	SE	Lon CR
4=	Thames Valley Berkshire	SE	Lon CR
6	Swindon and Wiltshire	SW	3rd Tier
7	Worcestershire	WM	Urban-rural
8	Enterprise M3	SE	Lon CR
9	Northamptonshire	EM	3rd Tier
10	Oxfordshire	SE	Rural
11	Coast to Capital	SE (part London)	Lon CR
12	South East Midlands	EM (part SE & EoE)	3rd Tier
13	The Marches	WM	Rural
14	Dorset	SW	3rd Tier
15=	Cheshire and Warrington	NW	3rd Tier
15=	Heart of the South West	SW	3rd Tier
17	York, North Yorkshire and East Riding	YH	Rural
18	Solent	SE	3rd Tier
19=	Cornwall and Isles of Scilly	SW	Rural
19=	Cumbria	NW	Rural
19=	Greater Lincolnshire	EM (part YH)	Rural
19=	South East	SE (part EoE)	Lon CR
23	New Anglia	EoE	3rd Tier
24	West of England	SW	2nd Tier
25	Leicester and Leicestershire	EM	2nd Tier
26	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
27	Stoke-on-Trent and Staffordshire	WM	3rd Tier
28	Coventry and Warwickshire	WM	3rd Tier
29	London	London	Capital
30	Sheffield City Region	YH (part EM)	2nd Tier
31	Humber	YH	3rd Tier
32	Leeds City Region	YH	2nd Tier
33	Greater Manchester	NW	2nd Tier
34	North Eastern	NE	2nd Tier
35	Lancashire	NW	3rd Tier
36	Tees Valley	NE	3rd Tier
37	Greater Birmingham and Solihull	WM	2nd Tier
38	Black Country	WM	2nd Tier
39	Liverpool City Region	NW	2nd Tier

Source: Annual Population Survey

Table E15: Halifax Quality of Life Survey, 2014, ranking based on median rank of each LEP's constituent Local Authorities, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Enterprise M3	SE	Lon CR
2	Buckinghamshire Thames Valley	SE	Lon CR
3	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
4	Thames Valley Berkshire	SE	Lon CR
5	Oxfordshire	SE	Rural
6	York, North Yorkshire and East Riding	YH	Rural
7	South East Midlands	EM (part SE & EoE)	3rd Tier
8	Coast to Capital	SE (part London)	Lon CR
9	Worcestershire	WM	Urban-rural
10	Hertfordshire	EoE	Lon CR
11	Solent	SE	3rd Tier
12	South East	SE (part EoE)	Lon CR
13	Coventry and Warwickshire	WM	3rd Tier
14	Gloucestershire	SW	Urban-rural
15	Cheshire and Warrington	NW	3rd Tier
16	West of England	SW	2nd Tier
17	Leicester and Leicestershire	EM	2nd Tier
18	Northamptonshire	EM	3rd Tier
19	Swindon and Wiltshire	SW	3rd Tier
20=	Greater Birmingham and Solihull	WM	2nd Tier
20=	Stoke-on-Trent and Staffordshire	WM	3rd Tier
22	Humber	YH	3rd Tier
23	Greater Lincolnshire	EM (part YH)	Rural
24	The Marches	WM	Rural
25	Dorset	SW	3rd Tier
26	Heart of the South West	SW	3rd Tier
27	New Anglia	EoE	3rd Tier
28	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
29	London	London	Capital
30	Cornwall and Isles of Scilly	SW	Rural
31=	Black Country	WM	2nd Tier
31=	Cumbria	NW	Rural
31=	Greater Manchester	NW	2nd Tier
31=	Lancashire	NW	3rd Tier
31=	Leeds City Region	YH	2nd Tier
31=	Liverpool City Region	NW	2nd Tier
31=	North Eastern	NE	2nd Tier
31=	Sheffield City Region	YH (part EM)	2nd Tier
31=	Tees Valley	NE	3rd Tier

Source: Halifax; Notes: Halifax rankings are only up to the top 250, so those outside top 250 have all been given a notional rank of '251' and appear under the 'joint 31st' ranking in the table.

Table E16: Mean gross full time earnings, workplace-based, 2014, Highest is ranked '1'

Rank	LEP	Region	Classification
1	London	London	Capital
2	Thames Valley Berkshire	SE	Lon CR
3	Enterprise M3	SE	Lon CR
4	Buckinghamshire Thames Valley	SE	Lon CR
5	Oxfordshire	SE	Rural
6	Hertfordshire	EoE	Lon CR
7	West of England	SW	2nd Tier
8	Coast to Capital	SE (part London)	Lon CR
9	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
10	Solent	SE	3rd Tier
11	South East Midlands	EM (part SE & EoE)	3rd Tier
12	Coventry and Warwickshire	WM	3rd Tier
13	Gloucestershire	SW	Urban-rural
14	Swindon and Wiltshire	SW	3rd Tier
15	Cheshire and Warrington	NW	3rd Tier
16	Greater Birmingham and Solihull	WM	2nd Tier
17	Greater Manchester	NW	2nd Tier
18	South East	SE (part EoE)	Lon CR
19	Cumbria	NW	Rural
20	Dorset	SW	3rd Tier
21	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
22	Liverpool City Region	NW	2nd Tier
23	Leeds City Region	YH	2nd Tier
24	Leicester and Leicestershire	EM	2nd Tier
25	Northamptonshire	EM	3rd Tier
26=	Tees Valley	NE	3rd Tier
26=	New Anglia	EoE	3rd Tier
28	North Eastern	NE	2nd Tier
29	Humber	YH	3rd Tier
30	York, North Yorkshire and East Riding	YH	Rural
31	Sheffield City Region	YH (part EM)	2nd Tier
32	Stoke-on-Trent and Staffordshire	WM	3rd Tier
33	Worcestershire	WM	Urban-rural
34	Lancashire	NW	3rd Tier
35	Greater Lincolnshire	EM (part YH)	Rural
36	Black Country	WM	2nd Tier
37	Heart of the South West	SW	3rd Tier
38	The Marches	WM	Rural
39	Cornwall and Isles of Scilly	SW	Rural

Source: Annual Survey of Hours and Earnings

Table E17: Broadband Super-Fast Broadband Availability, 2014, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Black Country	WM	2nd Tier
2	Greater Manchester	NW	2nd Tier
3	Tees Valley	NE	3rd Tier
4	London	London	Capital
5	Hertfordshire	EoE	Lon CR
6	Greater Birmingham and Solihull	WM	2nd Tier
7	Coast to Capital	SE (part London)	Lon CR
8	Liverpool City Region	NW	2nd Tier
9	Thames Valley Berkshire	SE	Lon CR
10	Enterprise M3	SE	Lon CR
11	West of England	SW	2nd Tier
12	Coventry and Warwickshire	WM	3rd Tier
13	Solent	SE	3rd Tier
14	Leeds City Region	YH	2nd Tier
15	Leicester and Leicestershire	EM	2nd Tier
16	South East Midlands	EM (part SE & EoE)	3rd Tier
17	Stoke-on-Trent and Staffordshire	WM	3rd Tier
18	Cheshire and Warrington	NW	3rd Tier
19	North Eastern	NE	2nd Tier
20	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
21	Lancashire	NW	3rd Tier
22	Northamptonshire	EM	3rd Tier
23	South East	SE (part EoE)	Lon CR
24	Sheffield City Region	YH (part EM)	2nd Tier
25	Cornwall and Isles of Scilly	SW	Rural
26	Worcestershire	WM	Urban-rural
27	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
28	Dorset	SW	3rd Tier
29	Buckinghamshire Thames Valley	SE	Lon CR
30	Oxfordshire	SE	Rural
31	Swindon and Wiltshire	SW	3rd Tier
32	Greater Lincolnshire	EM (part YH)	Rural
33	Gloucestershire	SW	Urban-rural
34	New Anglia	EoE	3rd Tier
35	York, North Yorkshire & East Riding	YH	Rural
36	Heart of the South West	SW	3rd Tier
37	The Marches	WM	Rural
38	Cumbria	NW	Rural
39	Humber	YH	3rd Tier

Source: OFCOM

Table E18: Broadband, Average Download Speed, 2014, Highest is ranked '1'

Rank	LEP	Region	Classification
1	Tees Valley	NE	3rd Tier
2	Hertfordshire	EoE	Lon CR
3	Black Country	WM	2nd Tier
4	West of England	SW	2nd Tier
5	London	London	Capital
6	Greater Manchester	NW	2nd Tier
7	Enterprise M3	SE	Lon CR
8	Thames Valley Berkshire	SE	Lon CR
9	Liverpool City Region	NW	2nd Tier
10	Solent	SE	3rd Tier
11	Coast to Capital	SE (part London)	Lon CR
12	Greater Birmingham and Solihull	WM	2nd Tier
13	Leicester and Leicestershire	EM	2nd Tier
14	South East Midlands	EM (part SE & EoE)	3rd Tier
15	Coventry and Warwickshire	WM	3rd Tier
16	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
17	Northamptonshire	EM	3rd Tier
18	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
19	Leeds City Region	YH	2nd Tier
20	Oxfordshire	SE	Rural
21	South East	SE (part EoE)	Lon CR
22	Dorset	SW	3rd Tier
23	Swindon and Wiltshire	SW	3rd Tier
24	Buckinghamshire Thames Valley	SE	Lon CR
25	Stoke-on-Trent and Staffordshire	WM	3rd Tier
26	Greater Lincolnshire	EM (part YH)	Rural
27	Cheshire and Warrington	NW	3rd Tier
28	North Eastern	NE	2nd Tier
29	Lancashire	NW	3rd Tier
30	Gloucestershire	SW	Urban-rural
31	Sheffield City Region	YH (part EM)	2nd Tier
32	Worcestershire	WM	Urban-rural
33	Humber	YH	3rd Tier
34	Cornwall and Isles of Scilly	SW	Rural
35	New Anglia	EoE	3rd Tier
36	York, North Yorkshire and East Riding	YH	Rural
37	Heart of the South West	SW	3rd Tier
38	The Marches	WM	Rural
39	Cumbria	NW	Rural

Source: OFCOM

Table E19: Take-up of lines > 30 Mbit/s (number of lines) by Local Authority - % of households/premises, 2014

Rank	LEP	Region	Classification
1	Tees Valley	NE	3rd Tier
2	Hertfordshire	EoE	Lon CR
3	Black Country	WM	2nd Tier
4	West of England	SW	2nd Tier
5	Thames Valley Berkshire	SE	Lon CR
6	Greater Manchester	NW	2nd Tier
7	Greater Birmingham and Solihull	WM	2nd Tier
8	Enterprise M3	SE	Lon CR
9	London	London	Capital
10	Leicester and Leicestershire	EM	2nd Tier
11	Coast to Capital	SE (part London)	Lon CR
12	Solent	SE	3rd Tier
13	Liverpool City Region	NW	2nd Tier
14	South East Midlands	EM (part SE & EoE)	3rd Tier
15	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
16	Coventry and Warwickshire	WM	3rd Tier
17	Northamptonshire	EM	3rd Tier
18	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
19	Leeds City Region	YH	2nd Tier
20	Oxfordshire	SE	Rural
21	Stoke-on-Trent and Staffordshire	WM	3rd Tier
22	Buckinghamshire Thames Valley	SE	Lon CR
23	South East	SE (part EoE)	Lon CR
24	Cheshire and Warrington	NW	3rd Tier
25	Greater Lincolnshire	EM (part YH)	Rural
26	Dorset	SW	3rd Tier
27	North Eastern	NE	2nd Tier
28	Swindon and Wiltshire	SW	3rd Tier
29	Worcestershire	WM	Urban-rural
30	Gloucestershire	SW	Urban-rural
31	Sheffield City Region	YH (part EM)	2nd Tier
32	Lancashire	NW	3rd Tier
33	Cornwall and Isles of Scilly	SW	Rural
34	New Anglia	EoE	3rd Tier
35	Humber	YH	3rd Tier
36	The Marches	WM	Rural
37	Heart of the South West	SW	3rd Tier
38	York, North Yorkshire and East Riding	YH	Rural
39	Cumbria	NW	Rural

Source: OFCOM

Table E20: Travel to work times, 2012, Lowest is ranked '1'

Rank	LEP	Region	Classification
1	Cumbria	NW	Rural
2	Tees Valley	NE	3rd Tier
3	Cornwall and Isles of Scilly	SW	Rural
4	The Marches	WM	Rural
5	Heart of the South West	SW	3rd Tier
6	Humber	YH	3rd Tier
7	Greater Lincolnshire	EM (part YH)	Rural
8	Coventry and Warwickshire	WM	3rd Tier
9	North Eastern	NE	2nd Tier
10	York, North Yorkshire and East Riding	YH	Rural
11	Gloucestershire	SW	Urban-rural
12	Lancashire	NW	3rd Tier
13	Stoke-on-Trent and Staffordshire	WM	3rd Tier
14	New Anglia	EoE	3rd Tier
15	Black Country	WM	2nd Tier
16	Dorset	SW	3rd Tier
17	Sheffield City Region	YH (part EM)	2nd Tier
18	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
19	Cheshire and Warrington	NW	3rd Tier
20	Leeds City Region	YH	2nd Tier
21	Northamptonshire	EM	3rd Tier
22	Leicester and Leicestershire	EM	2nd Tier
23	Greater Manchester	NW	2nd Tier
24	Liverpool City Region	NW	2nd Tier
25	Worcestershire	WM	Urban-rural
26	West of England	SW	2nd Tier
27	South East Midlands	EM (part SE & EoE)	3rd Tier
28	Solent	SE	3rd Tier
29	Greater Birmingham and Solihull	WM	2nd Tier
30	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
31	Swindon and Wiltshire	SW	3rd Tier
32	Oxfordshire	SE	Rural
33	Thames Valley Berkshire	SE	Lon CR
34	South East	SE (part EoE)	Lon CR
35	Buckinghamshire Thames Valley	SE	Lon CR
36	Enterprise M3	SE	Lon CR
37	Hertfordshire	EoE	Lon CR
38	Coast to Capital	SE (part London)	Lon CR
39	London	London	Capital

Source: Annual Population Survey

Innovation Outputs

Table E21: GVA per capita, Highest is ranked '1'

Rank	LEP	Region	Classification
1	London	London	Capital
2	Thames Valley Berkshire	SE	Lon CR
3	Enterprise M3	SE	Lon CR
4	Oxfordshire	SE	Rural
5	Buckinghamshire Thames Valley	SE	Lon CR
6	West of England	SW	2nd Tier
7	Hertfordshire	EoE	Lon CR
8	Cheshire and Warrington	NW	3rd Tier
9	South East Midlands	EM (part SE & EoE)	3rd Tier
10	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
11	Gloucestershire	SW	Urban-rural
12	Swindon and Wiltshire	SW	3rd Tier
13	Solent	SE	3rd Tier
14	Coast to Capital	SE (part London)	Lon CR
15	Coventry and Warwickshire	WM	3rd Tier
16	Northamptonshire	EM	3rd Tier
17	Greater Birmingham and Solihull	WM	2nd Tier
18	Greater Manchester	NW	2nd Tier
19	Dorset	SW	3rd Tier
20	Leeds City Region	YH	2nd Tier
21	Leicester and Leicestershire	EM	2nd Tier
22	New Anglia	EoE	3rd Tier
23	Cumbria	NW	Rural
24	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
25	York, North Yorkshire and East Riding	YH	Rural
26	South East	SE (part EoE)	Lon CR
27	Worcestershire	WM	Urban-rural
28	The Marches	WM	Rural
29	Heart of the South West	SW	3rd Tier
30	Liverpool City Region	NW	2nd Tier
31	Humber	YH	3rd Tier
32	North Eastern	NE	2nd Tier
33	Greater Lincolnshire	EM (part YH)	Rural
34	Lancashire	NW	3rd Tier
35	Tees Valley	NE	3rd Tier
36	Black Country	WM	2nd Tier
37	Stoke-on-Trent and Staffordshire	WM	3rd Tier
38	Sheffield City Region	YH (part EM)	2nd Tier
39	Cornwall and Isles of Scilly	SW	Rural

Source: ONS

Table E22: GVA per hour worked, £s, 2013

Rank	LEP	Region	Classification
1	Thames Valley Berkshire	SE	Lon CR
2	London	London	Capital
3	Buckinghamshire Thames Valley	SE	Lon CR
4	Enterprise M3	SE	Lon CR
5	Coast to Capital	SE (part London)	Lon CR
6	Oxfordshire	SE	Rural
7	Hertfordshire	EoE	Lon CR
8	Swindon and Wiltshire	SW	3rd Tier
9	Solent	SE	3rd Tier
10	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
11	South East Midlands	EM (part SE & EoE)	3rd Tier
12	West of England	SW	2nd Tier
13	Cheshire and Warrington	NW	3rd Tier
14	Gloucestershire	SW	Urban-rural
15	South East	SE (part EoE)	Lon CR
16	Liverpool City Region	NW	2nd Tier
17	New Anglia	EoE	3rd Tier
18	Greater Manchester	NW	2nd Tier
19	Dorset	SW	3rd Tier
20	Greater Birmingham and Solihull	WM	2nd Tier
21	Coventry and Warwickshire	WM	3rd Tier
22	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
23	Leicester and Leicestershire	EM	2nd Tier
24	Leeds City Region	YH	2nd Tier
25	Tees Valley	NE	3rd Tier
26	Humber	YH	3rd Tier
27	North Eastern	NE	2nd Tier
28	Worcestershire	WM	Urban-rural
29	Black Country	WM	2nd Tier
30	Sheffield City Region	YH (part EM)	2nd Tier
31	Greater Lincolnshire	EM (part YH)	Rural
32	York, North Yorkshire and East Riding	YH	Rural
33	Northamptonshire	EM	3rd Tier
34	The Marches	WM	Rural
35	Heart of the South West	SW	3rd Tier
36	Cumbria	NW	Rural
37	Lancashire	NW	3rd Tier
38	Stoke-on-Trent and Staffordshire	WM	3rd Tier
39	Cornwall and Isles of Scilly	SW	Rural

Source: ONS

Table E23: UKCIS – Product or Process Innovation, % of enterprises, 2008-10

Rank	LEP	Region	Classification
1	South East Midlands	EM (part SE & EoE)	3rd Tier
2	Hertfordshire	EoE	Lon CR
3	Black Country	WM	2nd Tier
4	Enterprise M3	SE	Lon CR
5	Oxfordshire	SE	Rural
6	Coast to Capital	SE (part London)	Lon CR
7	Derby, Derbyshire, Nottingham and Nottinghamshire	EM	2nd Tier
8	The Marches	WM	Rural
9	Cheshire and Warrington	NW	3rd Tier
10	Dorset	SW	3rd Tier
11	Greater Cambridge & Greater Peterborough	EoE (part EM)	3rd Tier
12	Lancashire	NW	3rd Tier
13	North Eastern	NE	2nd Tier
14	Northamptonshire	EM	3rd Tier
15	Leeds City Region	YH	2nd Tier
16	Leicester and Leicestershire	EM	2nd Tier
17	Tees Valley	NE	3rd Tier
18	South East	SE (part EoE)	Lon CR
19	Buckinghamshire Thames Valley	SE	Lon CR
20	Thames Valley Berkshire	SE	Lon CR
21	West of England	SW	2nd Tier
22	Coventry and Warwickshire	WM	3rd Tier
23	Worcestershire	WM	Urban-rural
24	Swindon and Wiltshire	SW	3rd Tier
25	Sheffield City Region	YH (part EM)	2nd Tier
26	Solent	SE	3rd Tier
27	Greater Birmingham and Solihull	WM	2nd Tier
28	Cornwall and Isles of Scilly	SW	Rural
29	Liverpool City Region	NW	2nd Tier
30	London	London	Capital
31	Gloucestershire	SW	Urban-rural
32	Heart of the South West	SW	3rd Tier
33	Greater Lincolnshire	EM (part YH)	Rural
34	New Anglia	EoE	3rd Tier
35	Greater Manchester	NW	2nd Tier
36	Stoke-on-Trent and Staffordshire	WM	3rd Tier
37	Humber	YH	3rd Tier
38	Cumbria	NW	Rural
39	York, North Yorkshire and East Riding	YH	Rural

Source: Enterprise Research Centre (ERC) analysis of the UK Innovation Survey

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