

Commercialising Innovation:

A Briefing Paper on historic trends and policy context

Headlines

- High growth businesses – comprising just 6% of the UK business base - are far more likely to be innovative, create the majority of new jobs and be resilient in tough market conditions;
- The UK has a relatively poor record in investing in research and development (R&D) compared to other developed economies;
- The East of England is in the top half of the international regional league table for most innovation and economy measures. The UK's top R&D firms locate many of their activities in the East of England – GSK, AstraZeneca, BAE Systems, BT, Unilever and Ford;
- The East of England is very weak on the proportion of the workforce with higher education qualifications and graduate retention;
- The East of England is a centre for world leading research, capturing significant public investment into R&D and hosting several international centres of research.
- The UK's innovation policy is led by the Technology Strategy Board. There is potential for local government to work closer with the TSB in stimulating innovative firms to help meet some of local government's needs;
- The European Union has prioritised innovation spending. Over €400m has already been channelled to innovation activity in the East of England since 2007 with potentially a further injection of €700m between 2014 and 2020;
- Some Local Enterprise Partnerships are developing their work in this area, with Hertfordshire and Greater Cambridge, Greater Peterborough establishing task groups;
- Local authorities' approach to procurement can help stimulate innovation by small firms.

“The Local Government Association (LGA) welcomes this independent research on innovation. Councils recognise the important role that innovation plays in providing new sources of wealth and jobs. I hope this paper helps stimulate discussion at the 16th February ‘Town Hall’ debate taking place in Cambridge. I would like to thank the East of England LGA for their support with this research.”

Councillor Peter Box, Chair of the LGA's Economy and Transport Programme Board

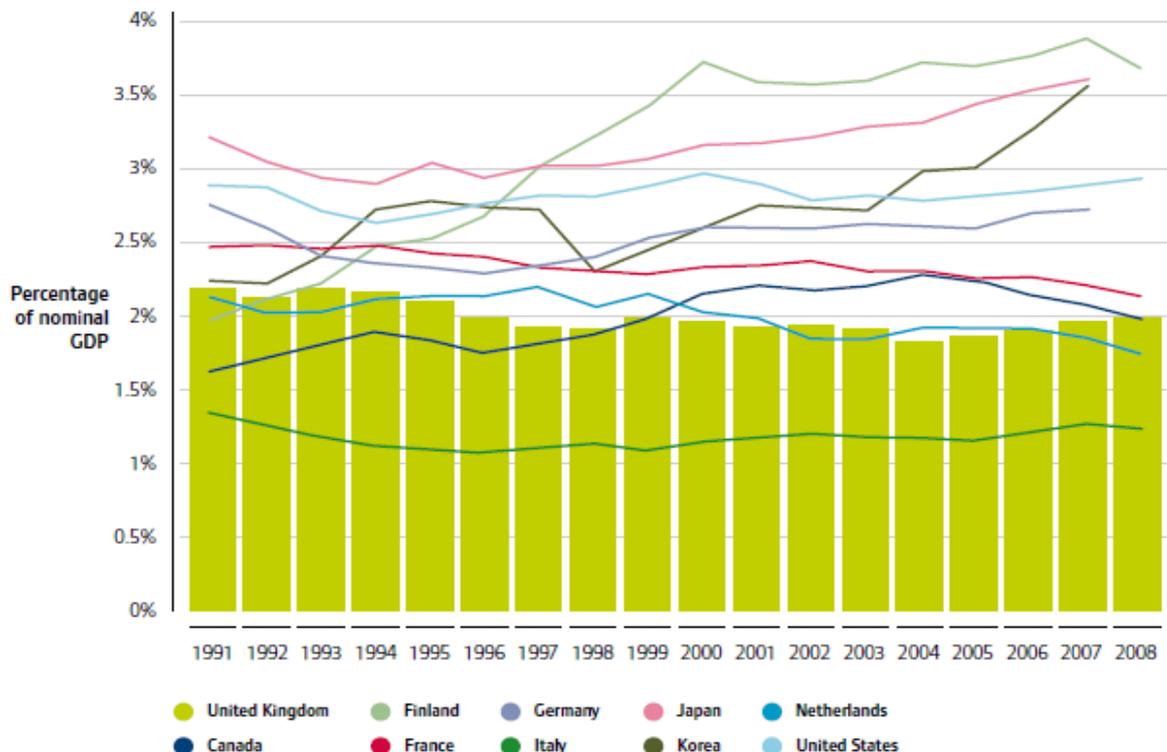
Paper compiled by Nick Burfield, February 2012

The findings in this report are not LGA policy. However it, together with contributions from the event will provide evidence to feed into the LGA's Local Economic Growth Campaign. The Campaign will inform our policy stance which we will share more widely through a Green Paper later this summer

1 Why is innovation important and what is it?

- 1.1 Recent years have seen widespread and significant reductions in output growth, rising unemployment and increased levels of public and private debt whilst traditional sources of growth have declined. The *Organisation for Economic Cooperation and Development (OECD) Innovation Strategy: Getting a Head Start on Tomorrow* states that innovation is “essential if countries and firms are to recover from the economic downturn”.
- 1.2 The Prime Minister states that “technology-based innovation will be one of the key drivers of the private sector led economic growth that Britain so urgently needs”¹ and “the Coalition Government is putting innovation and research at the heart of its growth agenda.” The spotlight on innovation is not new; **it accounted for 63% of all annual labour productivity growth since 2000**².
- 1.3 A small proportion of Small and Medium-sized Enterprises (SMEs) are critical to driving innovative growth. **The 6 per cent of UK businesses with the highest growth rates generated half of the new jobs created by existing businesses between 2002 and 2008**³...they were far more likely to be innovative, and data shows that their innovation was a source of growth.” A later study⁴ revealed that the same innovative, high-growth businesses perform better and are more resilient than others in recession.
- 1.4 The importance of innovation is also recognised at EU level. Europe is spending 0.8% of Gross Domestic Product (GDP) less than the US and 1.5% less than Japan every year on R&D and other countries like China and South Korea are catching up quickly. Increasingly, businesses will need to collaborate locally to compete internationally. *The Innovation Union*⁵ includes a target to investing 3% of EU GDP on Research and Development (R&D) by 2020 to create 3.7 million jobs and increase annual GDP by €795 billion by 2025.

The figure below indicates the UK historically invests a low proportion of GDP in R&D.



Source: OECD MSTI May 2010

¹ Blueprint for Technology and the Innovation and Research Strategy; *BIS*

² Annual Innovation Report 2010; *BIS*

³ The Vital 6%; *National Endowment for Science, Technology and the Arts*

⁴ Vital Growth; *National Endowment for Science, Technology and the Arts*

⁵ Part of the Europe 2020 Strategy; *European Union*

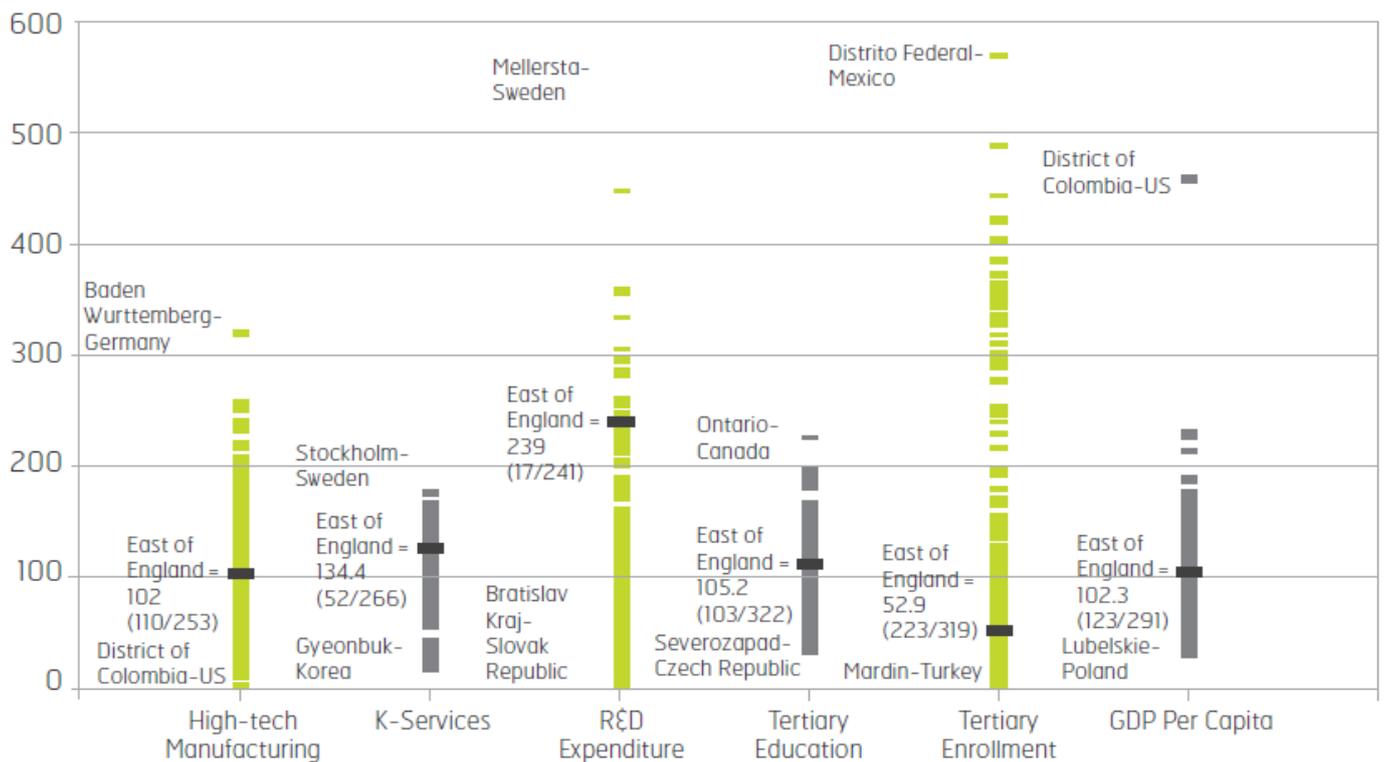
1.5 Innovation is not simply about R&D. The *Oslo Manual* suggests that innovation can be "new to the firm, new to the market or new to the world" and "can occur in any sector of the economy, including government services such as health or education." Innovation is essential not just for growth but also to tackle many of the other challenges facing local authorities including health, education, demographic change, water and food security.

2 The East of England as innovator

2.1 With regard to the East of England, we learn from *Innovation Insight* that:

- **In a UK context, the East of England is generally successful at innovation;**
- The East of England is one of the top 3 performers of the 12 UK regions for 21 out of 36 measures used and the best performer for 9 measures;
- **There are significant innovation assets and links, with businesses spending more (3.2% of Gross Value Added), and in greater proportion (61%), on R&D in the East of England than in any other region.**
- **With 69% of all businesses involved in innovative activity between 2004 and 2006, the East of England had the highest rate of commercialising innovation;**
- **The adult skills profile is weaker than many UK regions.** Despite the East of England being the second best performing region regarding school age attainments it drops to 10th for graduates in the workforce, 12th for the number of higher education graduates per capita and performs poorly in higher education qualifications attainment;
- **Performance across local areas is patchy with significant differences in innovation capacity and performance; this is especially true regarding skills and education;**
- The connectivity of the region is mostly good, with very good national and international transport links, high levels of broadband access and use amongst businesses and high levels of collaboration within and between businesses and universities. There are areas, however, with poor road and rail access and with no access to high speed broadband;
- Despite being one of the top 3 performers at innovation of the 12 regions, the East of England falls to 4th for economic output and 8th for long-term economic growth;
- The region performs well compared to other EU and OECD regions regarding business and government R&D expenditure, links, patents per capita and employment in knowledge-intensive services.
- The economic potential of innovation is illustrated by two high growth companies from Cambridge: ARM, a multinational semiconductor and software design company and Autonomy, the second largest pure software company in Europe that was founded in 1996 utilising a unique combination of technologies borne out of research at Cambridge University and is now a \$7 billion business.

The figure below illustrates the East of England's performance on a number of innovation measures relative to global competitors.



Source: OECD, 2008

3 Support for innovation – The policy context

3.1 Innovation, then, has a crucial role to play in driving economic growth and employment, and the East of England has considerable strengths that can be exploited to further benefit. It is worth looking closely at what is in place to support innovation that can be built upon and to identify in particular any areas where local government can play a more effective role.

European Union

3.2 There are many sources of financial support for innovation at EU level. Of particular significance for the period 2007-13 are the €53 billion 7th Framework Programme for Research and Technological Development (FP7) and the €3.6 billion Competitiveness and Innovation Programme (CIP). **Under FP7 the UK has to date drawn down €3.27 billion of which €374 million has been secured by applicants from the East of England**, making the region the third most successful in the UK after London and the South East.

3.3 Also of significant value is the €111 million East of England European Regional Development Fund (ERDF)-financed Competitiveness Programme (CP) “Towards Low Carbon Economic Growth” under which over €37 million is ring-fenced for “promoting innovation and knowledge transfer.”

3.4 Current proposals are for FP7 and CIP to be succeeded by Horizon 2020 from 2014 to 2020 with a budget of between €80 billion and €90 billion and providing a single programme for all EU-wide research and innovation funding. Also in the new funding period there is likely to be a successor to the CP, with a strong focus on innovation and the scope for continued sub-national management. The local authority sector and economic development partners have been significant beneficiaries under these programmes, and will want to engage with the current debate and consultations about their future scope and management.

UK Government

- 3.5 The UK Government has outlined in *Blueprint* and elsewhere its intention to support innovation and competitiveness through taxation, investment in the research base, regulatory review, the intellectual property framework, managed immigration, business-focused support, investment, connectivity, skills and public procurement. Some of these and the means of their delivery are of particular interest and relevance to the local authority sector.
- 3.6 **The Technology Strategy Board (TSB), a Non Departmental Public Body sponsored by the Department for Business, Innovation and Skills, is the UK's national innovation agency.** TSB is a business-focused organisation whose goal is “to accelerate economic growth by stimulating and supporting business-led innovation” and its vision is for the UK “to be seen as a global leader in innovation and a magnet for technology-intensive companies.”

The TSB manages a range of programmes and delivery mechanisms to drive innovation:

- Connect, supporting Knowledge Transfer Networks (KTNs) and other networks;
- The Small Business Research Initiative (SBRI), a major programme using procurement to drive innovation by inviting innovative companies to engage with the public sector;
- Catapult, a network of technology and innovation centres;
- Knowledge Transfer Partnerships, supporting academic and business partnerships;
- Smart, providing proof of market and concept, and development of prototype grants; and
- International programmes, the UK coordination role within EUREKA and FP7.

The TSB has worked in partnership with a number of organisations including the Research Councils, the NHS and the Regional Development Agencies, and following the demise of the latter is beginning to collaborate with the newly-established Local Enterprise Partnerships (LEPs).

Case Study 1: SBRI East - <http://www.hee.org.uk>

Adopting the TSB SBRI model NHS Innovations East has used funds from the Strategic Health Authority, together with £800,000 from the ERDF-financed Competitiveness Programme, to help SMEs bid successfully for NHS healthcare contracts to help the NHS meet its carbon reduction targets. SBRI East provides an interface between SMEs and the NHS and focuses on three areas of healthcare, relevant both to the region and to national NHS policy: managing long term conditions closer to home; patient safety; and staying healthy. SMEs will be better positioned to deliver products that not only improve patient care but also deliver cost savings and reductions in carbon emissions. Under the initiative up to 100 SMEs should benefit from a better insight into healthcare economics and carbon accounting, resulting in stronger bids and more contracts won.

Universities

- 3.7 **The potential contribution [of higher education] to economic prosperity, through innovation and knowledge exchange to the wider society, is regarded as vitally important for economic development and growth.**⁶ The sector is certainly regarded in all developed countries as a core part of the economic infrastructure and one that generates employment and outputs, attracts export earnings and contributes to GDP. Higher education in the East of England had revenue of £1.98 billion in 2007/08.
- 3.8 Government has tasked universities⁷ to review how they work with business across their teaching and research activities, to promote better teaching, employer sponsorship, innovation and enterprise. Also, the Review, “**how we make the UK the best place in the world for university-industry collaboration**”, is being led by Professor Sir Tim Wilson, former vice-chancellor of the University of Hertfordshire.

⁶ Making an economic impact: Higher education and the English regions; *Universities UK*

⁷ Students at the Heart of the System; *BIS*

- 3.9 Universities in the East of England have been active in bringing forward initiatives that support innovation:

Case Study 2: EValu8 - <http://www.evaluable-ti.org.uk>

Delivered by EValu8 Transport Innovations Ltd, a company set up by the University of Hertfordshire and steered by key project stakeholders (including the 11 transport authorities in the region) from the private and public sector, EValu8 aims to “install an operationally effective electric vehicle (EV) charging network across the East of England, using it as test bed and innovation platform to build upon the region’s significant innovation capabilities and help catalyse the new global EV economy.” The £7 million project is being delivered over 2 years from March 2011 and funds 50% of eligible costs for the installation of 600 double headed recharging posts (1,200 recharging points) across the East of England, focused on 8 key clusters and 5 different journeys.

Case study 3: InCrops - <http://www.incropsproject.co.uk>

A virtual enterprise hub based at the University of East Anglia (UEA), InCrops stimulates commercial activity in the alternative and non-food crop sector by establishing business networks for sharing research knowledge. In partnership with the Universities of Cambridge and Essex, the Institute of Food Research, the John Innes Institute, Rothamsted Research, The National Institute of Agricultural Botany and Norwich Research Park, InCrops has been developed to support: the commercialisation of new biorenewable and low carbon products; the business and commercial sector and sustainable economic growth through supply chain development, market integration and product innovation; successful technology transfer into the business and commercial environment; and commercialisation through business spin outs and business incubation support in the East of England. SMEs, new start-up businesses or entrepreneurs looking to start a new business are offered up to 14 hours of free specialist business support and consultancy.

Local Enterprise Partnerships

- 3.10 Following the demise of the Regional Development Agencies (RDAs), Local Enterprise Partnerships (LEPs) have the strategic lead below the national level for economic development but are significantly less well resourced than were the RDAs. The annual budget for the East of England Development Agency on closing was around £120 million; the loss of this finance and the Agency’s technical expertise might impact on the type and scale of projects that partners will be able to bring forward in future. The LEPs have no discrete funding or responsibilities for business / innovation services, with support for innovation now the responsibility of the TSB.
- 3.11 The 5 LEPs covering the East of England have published tentative or medium-term priorities. Unsurprisingly, a number of common themes emerge including: the promotion of better connectivity including high speed broadband (Gtr Cambridge Gtr Peterborough, New Anglia, South East); raising skills levels (Gtr Cambridge Gtr Peterborough; Hertfordshire; South East); attracting investment (Gtr Cambridge Gtr Peterborough, South East Midlands, South East); and promoting the area (New Anglia, Hertfordshire, South East).
- 3.12 **Many of the LEP priorities - high speed broadband for example - contribute to a positive environment for innovation. Some LEPs have established bodies to support innovation;** Hertfordshire, for example, has an Enterprise and Innovation Board and Gtr Cambridge Gtr Peterborough has a Science, Innovation and Industry Council. There may be further scope for the LEPs to ensure that innovation has strong support below the national level and is recognised in strategic statements and action plans as a principal driver for economic growth and jobs. As a partner alongside business and higher education on LEP Boards, and a likely collaborator in local economic development activity, local authorities can help to ensure that support for innovation becomes or remains a priority.

Local authorities

- 3.13 Across the range of its services the local authority sector has had to respond innovatively to local challenges. The Audit Commission⁸ found that **“innovative projects have allowed authorities to improve value for money, the quality of services and community engagement”** and also noted that **“a culture that combines ambition and openness to new ideas encourages innovation.”**
- 3.14 Specifically with regard to economic development, several councils have been instrumental in establishing or contributing to partnerships drawing together key public, private and voluntary sector partners to formulate and deliver economic development strategies in their areas.
- 3.15 The types of partnership have been extremely varied, ranging from informal local economic partnerships through to Development Corporations. **The most recent strategies and statements from the local authorities, formulated either individually or in partnership, do for the most part acknowledge the importance of innovation and the need to support innovative activity.** Norfolk County Council for example highlights the need to “foster enterprise and innovation” and underlines its support for two Enterprise Hubs in the County: Hethel Engineering Centre and East of England Production and Innovation Centre. The first priority listed in the Greater Cambridge Sub-Regional Economic Strategy 2009-2012 is to “support innovation, start up activity and resource efficient growth, particularly in the clean-tech, ICT and life science sectors”. Southend-on-Sea Borough Council’s 2010 Economic Development and Tourism Strategy has the vision “an innovative and resilient economy that attracts high quality businesses, retains knowledge and nurtures a diverse and sustainable economic base.” The 2008-13 Sub-Regional Economic Strategy for Peterborough has as the first of its four strategic objectives “raise the competitiveness of business through innovation and enterprise support” and the fourth objective promotes “access to international innovation systems and knowledge networks.”
- 3.16 There are many other examples of local authority commitment to innovation and two case studies follow.

Case study 4: Hethel Engineering Centre

<http://www.hethelcentre.com>

The Hethel Engineering Centre in Norfolk was established in February 2006 to act as an incubator for engineering and technology firms, offering modern office and workshop facilities alongside business advice and an entrepreneurial atmosphere. The £7.6 million project was developed by Norfolk County Council in partnership with Group Lotus plc, South Norfolk District Council and the East of England Development Agency. Since opening it has brought an estimated £10 million into the local economy, helped with the founding of 53 new companies (with only two business failures) and supported the creation of 153 jobs. The average turnover of the businesses based at Hethel is £250,000 and it is estimated that at least half that has been spent on local labour and suppliers.

Case study 5: Business Smiles

With domestic transport responsible for 24 per cent of the CO₂ emissions in the UK, and with a government target to reduce the UK’s greenhouse gas emissions by 80 per cent by 2050, Suffolk County Council led a £2 million partnership with the Highways Agency, Hertfordshire County Council, Ipswich Borough Council, St Albans District Council and Exemplas, to establish Business Smiles: an innovative green travel consultancy service to help 160 SMEs in Ipswich and St Albans to reduce business use of cars, vans and lorries. The free service is designed to assist SMEs review their transport needs, including commuting by staff. The plans are then used to make their transport policies as efficient as possible, saving them around £10,000 annually and cutting CO₂ emissions by 10 per cent.

⁸ Seeing the light: innovation in public services; *Audit Commission*

- 4.1 There are examples of local authorities and their partners having played a significant role in promoting innovation in their areas; investing their own resources and securing external funding from EU and other sources to bring forward a range of significant projects.
- 4.2 There is scope for local authorities to do more – albeit with limited resources. The Local Government Association may wish as part of the *Local Growth Campaign* to consider the following issues and suggested opportunities for local government to drive a local response.

Issue	
1. Intelligence about the relative innovation performance of localities is outdated.	Work with BIS to ensure future Annual Innovation Reports incorporate detailed sub-national analysis.
2. Local leadership of targeted measures to support innovation.	Local authorities should ensure their corporate and community strategies, and those of the LEPs and other economic development partners, promote and support innovation.
3. Because of market failure innovation will not flourish without public support for incubation space, excellent advice and access to finance.	Local authorities should give a high priority to ensuring innovative SMEs have access to necessary infrastructure and funding support from the EU and UK Governments. Some may also examine offering direct financial support, for example business rate relief against sums invested by SMEs in R&D and innovation.
4. Risk-averse local authority procurement can alienate SMEs and stifle innovative products, services and solutions that could drive savings.	Unlocking economies of scale through collaborative procurement can drive savings. Equally, targeted work to frame invitations to supply goods and services in ways that encourage innovative approaches by SMEs can transform services and stimulate local economies.
5. Local authorities can use existing structures like the TSB to help drive innovation.	The sector should consider adopting the Small Business Research Initiative: <ul style="list-style-type: none"> • nationally by identifying the top 5 challenges facing local government and working with TSB to seek solutions through SBRI; and • locally by identifying (collaboratively where necessary to give ‘mass’) challenges that might find a SBRI solution and opportunities to promote other TSB services.
6. Connectivity is a key factor in innovation but there are major inequalities in, amongst other areas, road and broadband networks.	Local authorities should: <ul style="list-style-type: none"> • lobby for investment in infrastructure on the basis of its contribution to innovation and economic and employment growth; • invest in broadband coverage and take-up; and • open-up their own IT networks to SMEs where coverage is poor (through for example libraries, schools and remote council offices).
7. An educated and skilled workforce is an essential component in achieving high levels of innovation in the economy.	The sector must continue to use its formal and informal roles in schools and further and higher education institutions to drive up educational penetration and attainment.
8. EU and UK Government funding provides crucial support for innovation and is likely to become more essential in times of economic constraint.	The sector should: ensure that it continues to secure UK and EU funding in support of innovation; and engage with the present review of EU funding for the period 2014-20 to secure future finance for innovation and programme management, involving the sector, below the national level.
9. There is a need to embed innovation more deeply in the culture and daily workings of local authorities.	This should come through strong leadership, creative working, the avoidance of a totally risk-averse culture and the use of tools like Knowledge Transfer Partnerships and open innovation.