

New Economy Working Papers



Stimulating Business Innovation
Making Manchester a leader in
enterprise innovation support

**Kram Sadiq, Philip Shapira
and Alexander Roy**

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Abstract

This paper considers how Greater Manchester might move forward in stimulating business innovation to underpin long-term sustainable growth. The aim of the paper is to contribute to deliberation about the priorities and strategies of the new Greater Manchester Local Enterprise Partnership and to ensure that enterprising companies in Greater Manchester can participate in a vibrant network of services and facilities that encourages and enables them to innovate and grow.

Economic development organisations in Greater Manchester have long recognised the importance of stimulating business innovation as part of promoting a successful economy. The significance of innovation to the conurbation has been emphasised in a series of reviews which set out a vision for Greater Manchester as a leading knowledge city, embracing creativity, innovation and enterprise. Despite significant efforts, this vision has yet to be fully achieved. The recent economic downturn and changing policy and institutional structures mean that it is timely to reappraise approaches for business innovation support.

The paper focuses on private sector business innovation, giving particular attention to stimulating and supporting innovation in small and medium-size enterprises and in clusters of small and large firms. We define innovation broadly - considering product, process, organisational, and service innovation, and including hidden forms of innovation not captured by conventional indicators. The paper starts by setting out the broader context, examining current thinking on key drivers of economic growth and business support services required to stimulate innovation and growth in companies. The approach to business and innovation services in countries known for having achieved high productivity growth is examined, alongside a review of recent UK experience in providing business and innovation support to companies. Finally, the implications for future provision of innovation support in Greater Manchester are considered.

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Executive Summary

In most cities and regions it is not necessarily easy or straightforward to deploy effective mechanisms and incentives to stimulate successful innovation by firms. Multiple factors and influences have to be considered, including management and workforce skills, enterprise resources and strategy, market orientation, business relationships, investment and access to finance, access to information and technology, and attitudes towards risk.

Building up awareness, expertise and resources to foster enterprise innovation takes sustained effort by private and public leaders. As part of a broader strategy to stimulate innovation, one important element is ensuring access by firms to effective business support programmes and networks. This is especially important for small and medium-sized enterprises that typically lack the resources available to larger firms in undertaking innovation.

Innovation is about the implementation of new ideas and new ways of doing things. Innovation can occur through the design, development and marketing of new goods and services, and by the introduction of new production processes and ways of doing business. The importance of innovation as one of the key drivers of competitiveness has long been recognised. More recently there has been emphasis on the broad nature and diversity of innovation. Innovation in companies involves informal or tacit knowledge, is undertaken outside of laboratories, occurs in services sectors as well as in manufacturing, and is often 'hidden' and not easily measured by standard official statistics. Recent analysis in the UK found that innovation contributed two-thirds of the UK private sector labour productivity growth over the period 2000 to 2007. The majority of this growth (three-quarters) was due to investment in innovative design, skills, organisational structures and brand equity (NESTA, 2009a).

Manchester is recognised for its heritage of leadership in science, technology, and industry, and for recent progress in revitalization following industrial restructuring in the 1970s and 1980s (Peck and Ward, 2002). Major economic development projects have been initiated, including the rebuilding of the Manchester city centre, the on-going development of Salford Quays and MediaCityUK, and the expansion of Manchester Airport. There is a strong base of university and medical research and education in Greater Manchester, as acknowledged in a recent review of the conurbation's science and technology base. Yet, the availability of a strong R&D base does not necessarily flow through into wealth creation through innovations that are commercialised by companies in Greater Manchester. In 2009 there were 94,600 businesses in Greater Manchester of which 94,040 were small and medium-sized enterprises (SMEs). Among this business base, there are, of course, many innovative manufacturing and services companies operating in Greater Manchester. However, overall, the metropolitan area has only a middling level of business performance, ranking 21 out of 53 sub-regions nationally on a recent summary index of business and enterprise indicators. Greater Manchester lags key benchmark cities both in per capita economic performance and in achieving sufficient scale and scope of activity in business innovation to significantly advance metropolitan economic standing.

There are many international examples of institutions and innovation support services for stimulating business development and growth. The paper considers examples of intermediary organisations and programmes from Australia, Canada, Denmark, Germany, Japan, and the US. The services offered by these intermediaries include information, benchmarking assessments, technical consultancy, training, network events, collaborative R&D projects, strategy development and coaching and mentoring.

In reviewing the case studies there are a number of critical success factors that can be identified:

- they are embedded in regional and business communities, with strategic management and goals, effective governance, and sustainable business models;
- they offer highly customised and flexible intensive business support (including networking, business planning, technology support, coaching and mentoring, collaborative R&D, and access to finance services);
- although diagnostic and on line tools are increasingly used, relationships and projects are developed through on-the-ground expert personnel;
- they seek to develop long-term relationships and build trust with businesses;
- they establish long-term networks with Higher Education Institutions (HEIs), business intermediaries, consultants, and public bodies; and
- they have established strong brands through providing quality-led assistance.

Over the past decade, there was an expansion in the number of business and innovation support programmes offered in the UK. The mid-2010 UK election resulted in a new coalition government, with a determination to address the nation's economic and fiscal situation and to reshape the delivery and performance of public services at national and sub-national levels. This new approach has resulted in structural changes to the delivery of business support for innovation and growth in England.

The abolition of the Regional Development Agencies (RDAs) and the establishment of Local Enterprise Partnerships (LEPs) have led to a redefinition of roles and responsibilities in the planning, co-ordinating and delivery of enterprise and innovation support. At the same time the government announced new initiatives supporting innovation and growth, for example the establishment of Growth Hubs and Technology and Innovation Centres (TICs) and a framework for advanced manufacturing, along with a strengthening of the role of the Technology Strategy Board (TSB) in the delivery of technology and innovation support programmes. These initiatives have subsequently been defined in more detail - with the Growth Hub concept evolving into a nationally contracted coaching and mentoring programme, targeted at high-growth firms.

Greater Manchester has a strong set of institutions that provide innovation support of various types, from the Universities and Science Park through to the Greater Manchester Chamber of Commerce and Manchester Solutions. Yet, to have a greater impact on Greater Manchester's innovation performance, increases and improvements are needed in the scale, scope, capabilities, leadership and integration of innovation services. The formation of the Greater Manchester Local Economic Partnership (LEP) provides new public-private leadership for Greater Manchester, but within an overall context where government funding for business support to stimulate innovation, institutions and programmes will be operated nationally, on a reduced scale and will be more targeted. The challenge of accelerating innovation is complicated by the constraints of reduced public funding resources at the present time. Yet, at the same time, new opportunities to foster innovation are emerging. Greater Manchester - by itself - cannot build a business support system comparable to the nation-wide systems established in Germany, the United States, and other leading economies. However, Greater Manchester can combine with other city-regions and organisations across the UK to make the case for reinvestment in national support for business innovation.

Moreover, Greater Manchester is not just limited to advocacy: the conurbation does have resources and capabilities that it can marshal to significantly improve, co-ordinate and target innovation services to local firms. Indeed, to the extent that Greater Manchester succeeds in doing this, it will establish models that can advance the national policy debate, as well as fostering conditions within the conurbation that better support innovation among existing firms and which can attract new enterprises.

We propose the following strategies through which Greater Manchester can build up innovation support for local enterprises.

1. Developing Greater Manchester innovation leadership

The policy, funding and institutional landscape for stimulating business innovation is in a state of flux. Greater Manchester has a newly-established LEP, together with its 'centres of excellence' (previously known as the Manchester Family of Organisations). Against this backdrop it is vital that Greater Manchester builds on the strengths of its existing innovation eco-system, maintains continuity, but equally reflects on how it can best shape its business support offer to accelerate private sector innovation. Greater Manchester should evolve a strong institutional approach to stimulating business innovation that looks beyond short-term funding streams and towards one that will have longevity. Specific action suggestions include:

- The Greater Manchester LEP should seek to promote a business-led innovation partnership network and develop a strong leadership role in shaping innovation policy. This should involve expanding the membership of the Manchester Innovation Group (which is now a sub-group of the LEP) with a view to increasing private sector representation.

-
- With the support of private sector innovation partners and the Manchester Innovation Group, the Greater Manchester LEP should ensure that key private sector, public sector, and university actors are working together to establish long-term and visible policies and arrangements to support business innovation in the city-region.
 - Developing strategic intelligence on the enterprise and innovation base in Greater Manchester, including business innovation performance, needs and opportunities in a comparative framework (with selected key benchmark UK and international cities). Within this, drawing from existing data sources, New Economy should produce regular updates of a Greater Manchester 'innovation index' as part of its Manchester Monitor and feed this into the Greater Manchester Strategy Indicators to provide a better understanding of progress by the conurbation on this agenda. Further, New Economy should undertake special studies and engagement processes with local firms to ensure updated insights are available to inform policy and programme development.
 - The Greater Manchester LEP should strongly articulate the contribution that the conurbation can make to national economic growth and the key priorities for innovation investment. In particular, the LEP should deliver its message to central government, as developed through the Manchester Independent Economic Review and other studies, that tackling barriers to growth in Greater Manchester and deeper support for business innovation in the conurbation is in the national economy's interest.

2. Anchoring an open and accessible high-quality business innovation provider network

Greater Manchester is already developing an open innovation approach, with the strengthening of strategic partnerships and innovation network, alongside specific initiatives to promote innovation to drive economic growth. In the current climate, partners in the innovation eco-system are reviewing activities and responding to current challenges. Yet, this context also creates opportunities for longer-term vision and capability development.

The Greater Manchester LEP should focus on stimulating private sector business innovation, establishing an exemplar for metropolitan business innovation partnership delivery. Given the size of the Greater Manchester economy, its importance to the North West economy and its potential to contribute to the UK economy's growth, there is a rationale and role for a dedicated metropolitan-wide enterprise innovation support intermediary (the Greater Manchester Enterprise Innovation Centre). This could be viewed as a 'growth hub' but it would be more than this since this intermediary would both provide services to enterprises and anchor the broader network of innovation organisations in Greater Manchester.

The Greater Manchester Enterprise Innovation Centre would be a demand-led, expert-based innovation intermediary that would promote new to market and new to firm innovations, through advice, mentoring, the marshalling of resources, and addressing barriers to growth. The Centre would address market and public failures related to information and coordination, as well as taking leadership in initiatives to build up and support capabilities for innovation in high-growth potential firms. Working with other stakeholders, the Greater Manchester Enterprise Innovation Centre would link with other organisations in the innovation support network in Greater Manchester, including private, HEI and public networks. Relationships would be established to understand capabilities, initiate and track referrals, and develop collaborative programmes, projects and teams. In part, virtual web-based mechanisms could be used to assist enterprises and service providers to navigate this system. However, more fundamentally, there is a need to ensure that personnel within these networks are aware of one another and of their services and capabilities, and that these staff members reach out throughout the conurbation to small and medium-size enterprises to ensure that firms are aware of these services and resources. Ideally, Greater Manchester's innovation support network should be established on a long-term basis, able to survive through changes in central government policies, so that a stable interface can be presented to the area's firms. Strong local public and private support is essential in securing sustainability.

To achieve effects at a metropolitan-wide level, scale is important. Not all of Greater Manchester's 94,000 SMEs would benefit from or be able to absorb innovation upgrading assistance. But a sufficient number of enterprises would need to be reached over a multi-year period to make a difference. The likely target markets in Greater Manchester for innovation services, including more intensive services for potential high-growth firms, range from about 15,000 to approximately 33,000 firms, or 16 to 35 per cent of the total stock of Greater Manchester firms. This target is a combined number for the Greater Manchester Enterprise Innovation Centre plus other organisations active in providing innovation support services in the conurbation. Almost all of the assisted firms would be SMEs, using the official threshold of 250 employees or less, although some firms in the up to 500 employee range could be assisted. Larger firms might be involved in supply chain, networking, consortia, and mentoring initiatives. Based on these estimates, a Greater Manchester innovation business support strategy that achieved a 10 per cent penetration rate annually based on the target segments outlined would seek to deliver between 1,500 and 3,300 assists. A 20 per cent penetration rate would reach between 3,000 and 6,600 firms annually. A 10 per cent level of market penetration represents a useful and achievable target (reaching about half of target firms in Greater Manchester over 5 years, excluding repeat business). A stretch goal that approached 20 per cent market penetration for the whole system would leverage greater impacts, but also require more resources. It would be reasonable to start off in the first few years to reach a 10 per cent target, then - in subsequent years - to ramp up to closer to 20 per cent. As always, an on-going challenge will be to ensure additionality and multipliers from innovation intervention, and to minimise deadweight and displacement.

3. Raising demand-led business support to promote innovation for growth

Greater Manchester LEP should promote a demand-led innovation support model based on high-quality intensive advisory support flexible to business needs (linked to other specific business support requirements, such as business angels, venture capital finance, incubator space, national business support and innovation products, and technology innovation centres). The Greater Manchester LEP and the Greater Manchester Enterprise Innovation Centre, working with the network of innovation service providers in the conurbation, could initiate a series of actions to foster awareness of the importance of, and create demand for, innovation. The following are examples:

- Promote high profile annual innovation awards, in conjunction with the universities, Pro Manchester and the Manufacturing Institute, to raise the profile of innovative ideas generated across Greater Manchester.
- Further development of supply chain, cluster and collaborative projects between leading companies operating in global markets with enterprises and organisations associated with major urban innovation projects (e.g. Oxford Road Corridor, Manchester's proposed Technology Innovation Centre (TIC), the Sharp Project, and MediaCityUK). The Manchester Investment Development Agency Service (MIDAS) could have a key role in this, with the direction of activity being two-way: linking innovative global companies (and potential inward investment) to Manchester and connecting born global innovative local SMEs to external customers and markets.
- Explore with the Manufacturing Advisory Service (MAS) ways to better link with existing innovation service providers and with the Greater Manchester Enterprise Innovation Centre to strengthen innovation support to manufacturing SMEs across the conurbation - to promote growth and the rebalancing of the Greater Manchester economy.
- Build on the conurbation's international strengths in low carbon, biotechnology and creative & digital to focus on the conversion of basic research into applied knowledge and commercial ideas. This involves promoting the conurbation in technology platforms of national and international significance and importantly developing supply chains around these technologies to increase the density of high-value added economic activity.
- Promote a Greater Manchester Innovation Day scheme (providing continuity and building on the experience of current innovation voucher scheme). This would provide SMEs with an invitation ticket to access to innovation providers to discuss their business ideas and problems and develop an action plan.
- Move to implement an innovation public procurement programme (in conjunction with the UK Technology Strategy Board) and a proof of concept fund to support highly-innovative start-ups (linked to regional and national venture capital funds).
- Promote Greater Manchester innovation competitions to raise awareness of the conurbation's innovation achievements and to promote the pipeline of highly-innovative ideas. Link these competitions with sources of innovation and financial support and with potential customers.

1

Introduction

The role of innovation in business growth and economic development has been emphasised in several Greater Manchester studies and governance documents. These include Manchester's Core Cities Prospectus (Manchester City Council, 2003), Manchester Science City (Manchester: Knowledge Capital, 2005), the Manchester Multi-Area Agreement (AGMA, 2008), the Greater Manchester Strategy (AGMA, 2009), and the Manchester City Region Innovation Prospectus (Manchester: Knowledge Capital, 2009). Most recently, the Manchester Independent Economic Review (MIER, 2009a) observed that cities with a higher proportion of innovative businesses are the ones which prosper and thrive. Yet, while there is acknowledgement of the critical importance of innovation, in most cities and regions - including Greater Manchester - it is not necessarily easy or straightforward to deploy effective mechanisms and incentives to stimulate successful innovation by firms. Multiple factors and influences have to be addressed, including management and workforce skills, enterprise resources and strategy, market orientation, business relationships, investment and access to finance, access to information and technology, and attitudes towards risk. Building up awareness, expertise, and resources to address these factors and to foster enterprise innovation takes sustained effort by private and public leaders. As part of a broader strategy to stimulate innovation, one important element is ensuring access by firms to effective business support programmes and networks. This is especially important for small and medium-sized enterprises, who typically lack the resources available to larger firms in undertaking innovation¹.

This paper examines the role of business support services in enabling and stimulating firms to innovate and grow, and considers approaches to further develop such services in Greater Manchester. The paper begins by discussing current thinking on innovation and its linkages with economic and business growth and on the contribution of business support services to enterprise innovation. Several recent UK studies of innovation support are highlighted. This is followed by an examination of business and innovation services in selected other high productivity economies, alongside a review of the evidence on recent UK experience and changes in national business support and innovation policy. Finally, implications for the future provision of innovative business support services in Greater Manchester are considered. Although the focus here is on Greater Manchester, there are insights for other cities and UK national policies for the development of business support services.

¹ In the UK (as in other European Union countries), small enterprises are defined as those with not more than 50 employees, medium as those with 50 - 249 employees, and large as those with 250 or more employees. Of 4.8 million private UK businesses in early 2009, 99.9% are classed as SMEs, accounting for 59.8 percent of private sector jobs (Department for Business Innovation and Skills, 2010a).

2

The importance of innovation for economic growth

What is innovation?

Innovation is about the implementation of new ideas and new ways of doing things. Innovation can occur through the design, development and marketing of new goods and services and by the introduction of new production processes and ways of doing business. A useful distinction can be drawn between innovation that is new to market having potential global market significance, and available innovation that is new to the firm and which - if deployed - can boost performance of both existing and new products, services and processes.

The importance of innovation as one of the key drivers of competitiveness - alongside investment, skills, enterprise and competition - has long been recognised. More recently there has been emphasis on the broad nature and diversity of innovation, making the point that there is more to innovation than simply undertaking laboratory R&D. Much innovation in companies involves informal or tacit knowledge, is undertaken outside of laboratories, occurs in services sectors as well as in manufacturing, and is 'hidden' in that it is not easily measured by standard official statistics (NESTA, 2008). Additionally, attention has been given to the application of innovation across public as well as private sectors, and the role of users and demand in innovation (OCED, 2009). The role of the creative sectors in fostering innovation has been at the fore of recent research and has been shown to have important economic, social and urban impacts (Florida 2002, Miles and Green, 2008). Alongside this, there is an increased understanding of the relative contribution of innovation to economic growth. Recent analysis in the UK finds that innovation contributed two-thirds of the UK private sector labour productivity growth over the period 2000 to 2007. Three-quarters of this growth is attributed to investment in innovative design, skills, organisational structures and brand equity (NESTA, 2009a).

There has also been more attention given to the process of innovation. Here the focus is on the complexity of innovation interactions - rather than innovation being viewed in terms of linear relationships (Pavitt, 2005). This has led to a shift towards multi-disciplinary teams focused on problem solving with the emergence of a 'triple helix' of universities, business and government (Leydesdorff and Etzkowitz, 2000). This is linked to the notion of the forms of innovation that in all sectors is seen to occur in ways not limited to formal R&D. NESTA (2007) has advanced the concept of 'total innovation' which is the combination of explicit innovation (such as R&D and patenting) and hidden innovation (innovation not measured by traditional indicators). Most significantly there has been rethinking of the process of enterprise innovation with concepts of open innovation and distributed innovation (Metcalfe and Coombs, 2000; Andersen et al., 2000; Chesborough, 2003). Here companies do not limit themselves to internal knowledge, but rather operate across networks in a shared and more dynamic system that drives innovation.

Innovation is increasingly recognised as a broad enabling platform process, and this has implications for relevant business support policies and instruments to stimulate private and public sector innovation. Private innovation vitally draws upon public funding for R&D and academic research, but also upon knowledge relationships among innovative companies, universities, business intermediaries, and other publicly-sponsored organisations (Block and Keller, 2008). A broad range of support services and approaches are relevant - at national and local levels - in order to provide effective support mechanisms, and this involves a broad range of private and public sector intermediaries. In this paper, we focus on private sector business innovation, giving particular attention to how to stimulate and support innovation in SMEs and in clusters of small and large firms. Local and regional networks are especially important for innovation in SMEs (Tödtling and Kaufmann, 2001; Acs, 2002). While some leading SMEs are able to develop global linkages, many other SMEs lack resources for wide-ranging searches but can benefit from innovation-oriented relationships with nearby sources of support and technical assistance. With SMEs comprising the majority of enterprises in local economies, this implies that an effective set of innovation support mechanisms for local firms is one of the foundation measures that cities seeking to improve their economic standing need to have in place.

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3

**Greater
Manchester:
innovation
performance,
issues and
strategies**

Manchester is recognized for its heritage of leadership in science, technology, and industry, and for recent progress in revitalization following industrial restructuring in the 1970s and 1980s (Peck and Ward, 2002). Major economic development projects have been initiated, including the rebuilding of the Manchester city centre, the on-going development of Salford Quays and MediaCityUK, and the expansion of Manchester Airport. There is a strong base of university and medical research and education in Greater Manchester, as recognized in a recent review of the conurbation's science and technology base (Box 3.1).

Box 3.1: Greater Manchester's Science and Technology Base

A review of Manchester's scientific research strengths finds that Greater Manchester has the critical mass of universities, public research institutions and research-intensive companies to become a hub of fast-growing research-led businesses similar to those in London, Oxford and Cambridge. Research strengths identified in Manchester include these sectors: life sciences; medical and health; chemistry; general and electrical engineering; ICT; built environment; creative, financial and professional services; advanced manufacturing; and energy and environmental technologies.

The North West as a region has lower levels of public and private R&D expenditure on a per capita basis than the Midlands and the South of England. Nonetheless, the review concluded that Manchester possessed a unique set of research competencies and assets, with a concentration along the Oxford Road (Corridor Manchester). Few other locations in the UK outside of the London-Oxford-Cambridge triangle offer such as strong and concentrated agglomeration of R&D capabilities.

Source: Manchester City Region's Scientific Research Strengths (SQW 2009a)

Yet, the availability of a strong R&D base does not necessarily flow through into wealth creation through innovations that are commercialised by companies in Greater Manchester. In 2009 there were 94,600 businesses in Greater Manchester of which 94,040 were SMEs (IDBR)². Of these some 76,200 firms employed less than 10 people and 17,840 employed between 10 and 250 employees. There were 560 companies employing over 500 employees. Among this business base, there are, of course, many innovative manufacturing and services companies operating in Greater Manchester. However, overall, the metropolitan area has only a middling level of business performance, ranking 21 out of 53 sub-regions nationally on a recent summary index of business and enterprise indicators (Local Futures, 2009). Viewed broadly, Greater Manchester lags key benchmark cities both in per capita economic performance and in achieving sufficient scale and scope of activity in business innovation to significantly advance metropolitan economic standing.

The Organisation for Economic Cooperation and Development (OECD, 2011) shows Manchester as being ranked 61st out of all OECD metropolitan areas in 2007 by gross domestic product (GDP) per capita - a measure of the value of goods and services produced in an area averaged by the population. Outside of London, Birmingham and Leeds fared relatively more poorly than Manchester by this indicator over the period 2002 to 2007. Most significantly, Manchester lags the continental European metropolitan areas regarded as suitable benchmarks³. GDP per capita in Manchester is ranked below that of Lyon, Barcelona, and Turin, and much below Munich. Valencia, another benchmark city, improved its relative position more rapidly than Manchester.

² Inter-Departmental Business Register (IDBR), Office for National Statistics

³ Benchmark metropolitan areas as selected by Manchester Enterprises in 2004

Table 3.1: Selected metropolitan areas, GDP per capita rankings (OECD, 2011)

2002		2007	
Metropolitan Area	Rank	Metropolitan Area	Rank
Munich	8	Munich	8
London	19	London	18
Lyon	44	Lyon	44
Turin	51	Barcelona	50
Barcelona	55	Turin	56
Birmingham	57	Manchester	61
Leeds	59	Birmingham	62
Manchester	62	Leeds	64
Valencia	73	Valencia	67

At the Greater Manchester level there are limitations in the availability of the set of innovation indicators used by the OECD (which includes input indicators such as business R&D and skills and output indicators such as high-technology employment and patent applications). Of those innovation indicators available at the metropolitan area the following patterns are observed:

- Skills:** the share of the population aged 16-64 with qualifications at National Vocational Qualification level 3 (NVQ3) and above (two or more A-levels or equivalents, or higher levels of education and training) rose to 48.7 per cent in 2010 in Greater Manchester, up from 44.6 per cent in 2005. Greater Manchester's skills attainment level is higher than in the metropolitan areas of Birmingham or Leeds, but increasingly lags the London city region. The share of Greater Manchester's working age population with skills attainment at NVQ level 3 or higher was 91.6 per cent of London's in 2005 but by 2010 this had fallen to 87.4 per cent. (Office of National Statistics, Annual Population Survey, from NOMIS, 2011). Since both metropolitan areas increased the absolute numbers of people with NVQ3 and above, this indicates that London was able to increase its skill levels (including through attracting skilled migrants) at a faster rate than Manchester.

- Enterprise churn:** VAT-registration data indicates that Greater Manchester has a level of enterprise start-up that is higher than the metropolitan areas of Birmingham and Leeds, although lower than for London. Over the three-year period 2005-2007, new business registrations as a proportion of the year-end stock of businesses averaged 10.9 per cent in Greater Manchester, compared with 9.2 per cent for Birmingham, 9.5 per cent for Leeds, and 11.9 per cent for London. VAT de-registrations were also relatively high in Manchester, averaging 8.4 per cent in Greater Manchester as against 7.3 per cent in Birmingham, 7.4 per cent in Leeds, and 8.8 per cent in London (BERR VAT registrations and deregistrations, from NOMIS, 2011). While this suggests that Manchester has an edge over the Birmingham and Leeds conurbations in business dynamism, the comparison with London is particularly telling. There is relatively little difference in business closure (deregistration) rates between London and Manchester (0.2 percentage points averaged for 2005-2007); however, there is a much greater difference in business openings (registrations), with London's start-up rate exceeding Manchester's by a full percentage point (averaged for 2005-2007). While efforts to stabilize existing enterprises in Greater Manchester are vital, especially in high-value sectors, this comparison

reinforces the importance of raising the level of entrepreneurship and enterprise formation in the conurbation.

- **Knowledge-based employment:** over the period 2003 to 2008 the percentage of employment in knowledge-based industries increased by 9.9 per cent across Greater Manchester, compared to 10.9 per cent for the North West and 11.8 per cent for Great Britain. This growth rate was below that of London, Bristol, Glasgow and Leeds city regions (NOMIS database, 2011).
- **Innovation:** Only three of the ten districts in Greater Manchester (Bolton, Oldham, and Stockport) have post code areas that are represented among the UK's sustained highly innovative post code areas, based on an analysis of the UK Innovation Surveys for 2005, 2007 and 2009 (Adams, 2011). Overall, Greater Manchester fields five sustained highly innovative post code areas compared with Cambridge (8 post codes) and Northwest London (7 postcodes).
- **Patent applications:** in 2000 the share of UK patents accounted for by Greater Manchester firms was 2.3 per cent (compared to Greater Manchester's share of UK Gross Value Added of 4 per cent), by 2008 the conurbation's share was at a slightly lower level at 2 per cent (OECD database, 2011).

The evidence highlights that Greater Manchester has made progress in narrowing gaps in certain areas, such as skills, with evidence of being one of the more enterprising conurbations outside the South East. Nonetheless, Greater Manchester has performed weakly on innovation output indicators, such as knowledge-based employment and patents, compared to averages for Great Britain and comparator areas.

In recent years, a series of studies have been commissioned to understand Greater Manchester's economic and innovation performance and to advance strategies and programmes for improvement. For example, Manchester: Knowledge Capital (2009) set out a high-level programme of strategies (Manchester City Region Innovation Prospectus) to enhance the conurbation's innovation eco-system. To achieve Greater Manchester's economic ambitions, the Innovation Prospectus highlighted the need to accelerate the pace of innovation, to build on the conurbation's strengths in global growth sectors such as life sciences and digital media, and to be at the forefront of global technological developments. The Greater Manchester Strategy (AGMA, 2009) adds the central aim of bringing about a cultural shift which better recognises the value of innovation in normal business practice.

The Manchester City Region Innovation Prospectus raises two grand challenges that need to be addressed jointly: (i) to expand the scale and accelerate the pace of innovation to enable Greater Manchester to be on a par with other innovative cities; and (ii) to ensure the innovation agenda works to achieve both economic and societal goals across the conurbation. The consultation process informing the Innovation Prospectus identified a number of gaps and issues in the conurbation's innovation assets and the innovation support system. These included:

- facilities for specialist science-based businesses and incubator businesses;
- access to seed, start-up and early stage funding;
- business development support services (including investment ready, development of management teams and mentoring and access to non-executive directors);
- assistance with problem solving and idea generation;
- slow development of next generation broadband; and
- no single business access point for innovation in and around Manchester.

A recent benchmarking survey undertaken as part of an Innovation Manchester stakeholder workshop review of the Greater Manchester Innovation ecosystem found that overall respondents viewed the city as having an 'adequate' innovation infrastructure (Georghiou & Davies, 2010). The respondents' views varied significantly across the elements considered as key in an innovation eco-system, with the conurbation's knowledge assets viewed as 'nationally excellent' or 'world-class' by almost nine-tenths of respondents. At the other end of the scale the availability of finance was regarded as 'weak' by nearly two-fifths of respondents.

Box 3.2: Greater Manchester business innovation and connectivity

The 2009 Manchester Independent Economic Review recommended that innovation across the Greater Manchester conurbation could be enhanced through:

- incorporating firms with no trading linkages within the conurbation into local networks - not least because many of these firms were found to have strong external linkages which would provide an important source of innovation;
- developing supply chain relationships to spread innovation;
- the use of innovation vouchers to stimulate new relationships between creative and non-creative businesses; and
- promoting the role of universities beyond commercialisation, spin-outs and spin-offs through encouraging their 'bridge connecting' role, thus enhancing the area's ability to innovate and accelerating the flow of ideas.

Source: MIER (2009b)

The Manchester Independent Economic Review (MIER, 2009a) further emphasised the need to tackle levels of innovation to address the underperformance of the conurbation. The MIER found that a large number of firms in Greater Manchester identified themselves as having strong external links but limited linkages with firms within the conurbation (for example in engineering, creative media, digital and ICT). This lack of internal networks was identified as a particular weakness limiting the spread of innovation. Trading linkages were seen as a promising avenue for spreading innovations quickly, with the need to encourage networks to maximise the innovative potential of the metropolitan area (see Box 3.2).

Box 3.3: Manchester Innovation Investment Fund

The Manchester Innovation Investment Fund (MIIF) was a strategic partnership between the North West Development Agency, the National Endowment for Science, Technology and the Arts (NESTA) and Manchester City Council and is regarded as a unique approach to city level innovation in the UK. MIIF was targeted at strengthening and developing the Manchester innovation community. Support was provided to about thirty projects, with a public investment of £6.85 million over the period 2007-2011. Sponsored projects included feasibility and pilot studies, economic research, networking activities, enterprise mentoring, and training and placement. The model developed clusters of people and firms around the conurbation to help generate new ideas and collaboration, with the aim of stimulating step changes in the city's capacity to innovate.

A NESTA review of innovation in Manchester viewed the approach adopted by MIIF as an effective way of building strong networks and 'open' innovation. The pilot projects funded by MIIF, such as the creative vouchers scheme, illustrated ways of integrating firms with important local supply chains and encouraging companies to think more innovatively.

Source: NESTA (2010)

A series of projects and programmes have been established across Greater Manchester in recent years to enhance innovation. It is not the purpose of this paper to provide an audit of all innovation assets and projects in Greater Manchester, but it is important to note the diversity of approaches, including the development of mentoring and advising, university-industry linkages, financial support, the sponsorship of intermediaries and networks, and the construction and rehabilitation of physical spaces to house innovative companies. Initiatives of particular relevance to innovation include:

- The provision of business advisory support, including services to embed innovation and develop innovative ideas. Key organisations include Manchester Solutions (a unit of the Greater Manchester Chamber of Commerce), in part funded through existing government programmes⁴ and the Manufacturing Institute⁵ which delivers the national Manufacturing Advisory Service (MAS) to Manchester area companies and sponsors the Manchester FabLab⁶ to promote individual and business inventions.
- The continuing development of university services and outreach targeted to business by Greater Manchester's universities (the University of Manchester, Manchester Metropolitan University, the University of Salford, and Bolton University⁷).
- The emergence of a variety of private and professional organisations and networks, including Pro Manchester⁸ (which is building on its financial and professional services membership to develop services for SMEs), networks of professionals in the creative industries⁹, and local business clubs such as the Tameside Business Family¹⁰.

- Manchester Science Parks, which has expanded its network of incubator facilities across the city and been at the forefront of supporting high-technology enterprises within the Manchester innovation system¹¹.
- The Sharp Project in East Manchester, which seeks to build a digital media hub and technology platform alongside an integrated producer chain to advance creative and digital industries in Manchester¹².
- Place-based or area clustering initiatives, such as MediaCityUK¹³ and the Oxford Road Corridor. Recently, there was a successful Regional Growth Fund bid for the redevelopment of the former Royal Eye Hospital into a new biomedical centre of excellence¹⁴. This partnership between developer Bruntwood Ltd and Manchester City Council aims to further develop the cluster of life sciences research and business activities along the Oxford Road Corridor¹⁵. A recent addition to these place-based initiatives is the Airport City enterprise zone¹⁶.
- The establishment of sector and mission organisations such as the Manchester Digital Development Agency (MDDA) which fosters digital and related technology-focused development projects, and the Manchester Investment Development Agency Service (MIDAS) which promotes Greater Manchester as an inward investment location.

Innovation investment programmes have been initiated in the conurbation, most noticeably under the Manchester Innovation Investment Fund (see Box 3.3). This seeded pilot projects to build up Manchester's innovation capabilities and networks.

⁴ www.economic-solutions.co.uk

⁵ www.manufacturinginstitute.co.uk

⁶ www.manufacturinginstitute.co.uk/text.asp?PageId=269

⁷ www.manchester.ac.uk/business, www.mmu.ac.uk/business, www.business-services.salford.ac.uk, and www.bolton.ac.uk/ServicesForBusiness/Home.aspx

⁸ www.pro-manchester.co.uk

⁹ www.meetup.com/C-I-N-G

¹⁰ www.tamesidebusinessfamily.com

¹¹ www.mspl.co.uk

¹² www.thesharproject.co.uk

¹³ www.mediacityuk.co.uk

¹⁴ www.hm-treasury.gov.uk/press_42_11.htm

¹⁵ www.corridormanchester.com

¹⁶ www.manchester.gov.uk/downloads/download/4364/airport_city

While the roster of Greater Manchester innovation-related organisations and activities is extensive (as the above examples illustrate), it is also subject to significant change. On the one hand, the closure of the North West Regional Development Agency and the elimination of regional development support, has led to the termination or reduction in scale of several business support programmes related to innovation. For example, the innovation voucher scheme¹⁷ offered by the North West Regional Development Agency is no longer available to Greater Manchester firms, and there has been the loss of this agency's support for the High Growth Programme of mentoring and support that had been delivered by Winning Pitch plc¹⁸. The Business Link regional advisory service is scheduled to be closed by November 2011. On the other hand, new initiatives are under development. Proposals have been put forward for a Greater Manchester proof of concept fund to enhance the flow of innovative business ideas and, to address subsequent funding gaps, for a Bank of Manchester alongside the development of a £185m regional venture capital fund (Pro Manchester, 2010). Under the UK Technology Strategy Board's new programme of Technology and Innovation Centres (TIC), and building on the announcement in December 2009 of Greater Manchester as the UK's first Low Carbon Economic Area and subsequent work, Manchester is seeking to establish a TIC within the area of 'sustainable infrastructure.' This reflects the research strengths of Greater Manchester's universities and the location within the conurbation of major industrial companies working in this field. In addition, the first TIC (of perhaps six expected to be sponsored over the coming period) will be a high value manufacturing technology and innovation centre - a multi-location centre with which Manchester is a partner through the Nuclear Advanced Manufacturing Research Centre (based in Rotherham but linked with the University of Manchester Dalton Nuclear Institute¹⁹).

Although rather lower than the level of funds previously allocated to the RDAs, the government has established a new £1.4bn Regional Growth Fund. Additional funding (£7m) is also being made available to MAS for supply chain development. In the private sector, banks have indicated that they will step up mentoring (by current and former bank managers) to try to replace the support gap left by the closure of Business Link (Tyler, 2011).

Much of the work to advance the innovation agenda in Manchester was overseen by Manchester Knowledge Capital (M:KC), an agency set up in 2002 to drive innovation across the city region. Both the M:KC Board and the Innovation Sub-Group of the New Economy Board, which leads on economic development for Greater Manchester on behalf of the Association of Greater Manchester Authorities (AGMA), undertook efforts to stimulate innovation in Greater Manchester. In early 2010 these two boards merged to become the Manchester Innovation Group (MIG). In 2011, MIG was designated as a subgroup of the new Greater Manchester Local Enterprise Partnership. The role of the MIG is to provide ongoing strategic leadership across the innovation agenda and is made up of 21 members (11 from the public sector, eight from higher education institutions, and one each from the Chamber of Commerce and Manchester Airport Group).

¹⁷ www.nwda.co.uk/media-library/publications/business/innovation-vouchers.aspx

¹⁸ www.highgrowthprogramme.co.uk/highgrowthfoundation

¹⁹ www.innovateuk.org/content/news/first-technology-and-innovation-centre-announced.ashx

This brief overview illustrates Greater Manchester's engagement in developing strategic and practical interventions aimed at accelerating and broadening the level of innovation. The approach has gained national recognition (for instance, in the NESTA review) for testing out innovative approaches and developing an open innovation network. However, the conurbation as a whole continues to perform weakly in comparison with its key international counterparts. There is continuing need to seek ways to enhance innovative activities across the conurbation and among Greater Manchester's foundation of existing and new firms. SMEs comprise the majority of these foundation firms.

The challenge of accelerating innovation is complicated by the constraints of reduced public funding resources at the present time. Yet, at the same time, new opportunities to foster innovation are emerging - both as the UK Government implements elements of its new approach and as the conurbation begins to exercise new roles as a result of changes in local government structures and organisational arrangements. In the next sections of this paper, we turn to focusing directly on issues of innovation in small and medium-sized enterprises. Subsequently, we will return back to the implications for Greater Manchester.

4

**Small and
medium-sized
businesses:
constraints on
innovation and
growth**

In stimulating innovation, OECD's recent innovation strategy makes the case for countries and areas to adopt a broad, collaborative and inclusive approach to innovation (OECD, 2010). This approach highlights the importance of fostering a framework to encourage risk taking alongside measures to strengthen education, training and entrepreneurship. In practical terms the OECD report highlights that a policy that supports new and younger firms is crucial for innovation to flourish (as they often exploit technological and commercial opportunities ignored by more established companies) with access to finance a key constraint to business-led innovation. For existing SMEs, improving their innovative capabilities is seen as an important challenge for policy makers; access to finance, participation in knowledge networks, leadership and skills enhancement are seen as areas for public intervention.

Although many SMEs in advanced economies are highly productive and sophisticated, on average across all advanced countries, small firms tend to lag larger firms by standard measures of economic value added - in terms of wages, working conditions, aggregate R&D and the pace of technology adoption. There are significant barriers to innovation for smaller enterprises due to a combination of market and government failures. Many small and midsize enterprises lack capabilities, resources and incentives for innovation, are concerned about the risks associated with the change, and - even if disposed towards innovation - are sceptical about the role of government in stimulating innovation (see Box 4.1).

Box 4.1: SMEs and barriers to innovation and growth

The barriers that SMEs face in increasing their rate of innovation are multiple, including:

- **Finance:** difficulty in accessing external finance, high innovation costs and therefore high economic risk;
- **Skills:** shortage of, and limited access to, qualified personnel;
- **Know-how:** limited internal know-how to manage the innovation process;
- **Markets:** missing market know-how to meet customer needs and enter foreign markets;
- **Regulation:** restrictive laws and restrictions; and
- **Property rights:** a lack of intellectual property rights.

High-growth potential companies generally face very similar barriers. Recent analysis of UK companies found that the most significant constraints to growth reported were: recruiting staff and a shortage of skills generally, shortage of managerial skills and experience, availability of finance, and the cost and accessibility of premises.

Sources: Tiwari and Buse (2007) and Levy et al., (2011)

The stylised view of an innovative SME simply as a high-technology start-up is now generally regarded as too narrow. There is much more to innovation than the development of technology-oriented products. Innovation can (and does) occur in mature manufacturing sectors and in services, and in ways that may include new ways of doing things or new business models. Innovation, as noted earlier, can involve the introduction of new or improved products, processes, organisational and business methods and marketing approaches. This broad definition of innovation is helpful in distinguishing inventions (new discoveries) from innovations (new applications) and entrepreneurship from innovation. Not all entrepreneurs - if we mean by this the people who start companies - are innovative; in fact, some entrepreneurs can be rather conservative (unsurprising, given that they are often risking their own funds) and more comfortable following tested approaches rather than trying something new. Similarly, undertaking R&D or seeking patents does not necessarily lead to innovation if those discoveries and inventions are not deployed and commercialised. Those SMEs most likely to grow are those that combine both entrepreneurship and innovation - although this also increases their risk of failure. Business support programmes targeted at such firms seek to reduce risks and increase chances of success, with the aim of increasing the total scale and scope of innovative SME activities in a national or regional innovation system.

There are several broad models of innovation support which help in understanding public innovation policy and programmes for SMEs (Shapira 2008, 2011). Box 4.2 provides a simplification of a range of approaches to stimulating business innovation. The most common SME support model has been based on the high-technology start-up dominated by a single entrepreneur (based on Silicon Valley); more recent models have tended towards the collaborative nature of innovation, and the importance of geographical proximity in fostering innovation and creativity. However, there is also increased attention to non-proximate enterprise linkages and the benefits to SMEs from internationalisation.

From the perspective of the SME, the choice of innovation support model matters. For example, a technology-push or pull model most suits the entrepreneur with a leading-edge technology seeking access to venture capital underpinned by R&D and technology transfer; an open innovation or networked model allows for both science-based and mature SMEs to have roles, linked with larger firms and public technology institutions; variants such as the creative-class model gives an edge to SMEs in the creative industries, as well as conventional high-technology.

In short it is not a case of one size fits all in stimulating business innovation. Moreover, models need to be adapted to local circumstances as there are risks in the translation process, and also need to be updated to reflect changing circumstances.

Box 4.2: Overview of innovation support models

- **Technology push:** this is broadly speaking a linear model where innovation occurs at the end of a process that begins with research, development production and sales in a sequential manner. Public policies tend to promote the funding of research at the front end, in the anticipation that it will be subsequently used by SMEs (as well as larger companies) in downstream activities. There is typically an orientation towards new technology-based SMEs, although sometimes this model also embraces the development and promotion of technologies targeted towards SMEs in mature industries. Technology push has many limitations, including lack of attention (in its pure form) to management, organisational, and marketing aspects of innovation.
- **Technology pull:** this model starts with the enterprise and seeks to link it with sources of new technology developed in universities and other research institutions. While it can be customised to firm needs, conventional technology pull models also tend to give less attention to other forms of innovation and may emphasise new (but untested) technologies over existing (and tried) solutions available elsewhere.
- **Innovation management:** these models place an emphasis on management in the innovation process, with publicly-sponsored programmes providing management expertise to assist enterprise innovation. There can be a bias towards product innovation management (over other forms of innovation), and such models tend to focus on internal individual firm projects rather than on fostering the broader development of capabilities and strategies and external collaborative relationships for innovation.
- **Open innovation model:** firms are encouraged to look to a variety of external sources for new ideas to enhance the level of innovation (including competitors, associations, universities and government). The model takes into account the limits to a small firm's ability to generate and gain from its own innovations, and instead highlights the need to develop connections with other actors in the innovation system. Open innovation models take time to develop (and do not offer the immediate returns of project-based models). They also require a reasonable level of sophistication among participating SMEs and may not be appropriate for all sectors.
- **Networked innovation models:** a complementary approach to understanding innovation is found in networking, clusters and agglomeration theories. Here it is recognised that innovation and technology development depends on knowledge, that knowledge spillovers across agents and firms lead to increasing returns, and that there are geographical boundaries to information flows and knowledge spillovers - in particular tacit knowledge. This approach also highlights the importance of talent, technology and tolerance as providing the conditions for innovation and ideas to flow (as highlighted by Florida and the creative class model) along with the promotion of clusters. Public policies have focused on the promotion of knowledge exchange, capacity building, and collaborative projects between SMEs, larger firms, technology transfer institutes and universities.

5

**Business
Innovation Support:
international and
UK experience**

International experience

In this section we examine the approach and types of services offered by leading international technology and innovation centres, alongside other selected innovation support programmes²⁰. These case examples are considered of particular relevance as they represent countries that have sustained high investment in business R&D (e.g. Japan, Denmark, Germany, US) or identified the need to accelerate R&D expenditure (e.g. Australia and Canada).

Table 5.1 overleaf provides a summary of the business and innovation support services provided by the selected organisations and programmes. Broadly the services offered include information, benchmarking assessments, technical consultancy, training, network events, collaborative R&D projects, strategy development and coaching and mentoring.

The examples outlined are of significant scale and longevity with some adopting an in-house core and expert staffing, but others using an external network of experts. However, there are differences which are often dependent on local economic and institutional context (there will be many other players in the business support landscape). The Fraunhofer Institutes have a high R&D intensity with significant industry contract research undertaken including for large companies as well as smaller ones. Fraunhofer Institutes offer advanced and customized applied R&D services. Near market technical consultancy services are offered to SMEs by the GTS (a grouping of nine independent Danish research and technology organisations) in Denmark and by the US Manufacturing Extension Partnership (MEP). The MaRS Centre in Toronto, Canada, offers physical facilities as well as advisory services²¹. Commercialisation Australia offers proof of concept and early stage commercialisation funding along with advice and mentoring²².

²⁰ See also Shapira et al, 2011

²¹ www.marsdd.com

²² www.commercialisationaustralia.gov.au

Table 5.1: Examples of international business innovation support programmes

Prc (year established)	Type of services provided									Technology / sector focus	Target segments	Finance model
	Advice	Diagnostic	Training	Mentoring	Consultancy	Joint R&D	Events and Networking	Funding	Incubator space			
Fraunhofer Institutes, Germany (1949)	✓	✓	✓		✓	✓	✓			Industry focused & 12 main technology areas	All companies c50 per cent SMEs	2/3rds private via contract research
Steinbeis Centres, Germany (1971)	✓		✓		✓	✓	✓			Across all sectors	SMEs, but also large Cos	Private led
Manufacturing Extension Partnership, US (1980s)	✓	✓	✓	✓	✓		✓			Focus on technology diffusion, mfg	SME	Public and private
Industrial Research Assistance Program, Canada (1962)	✓	✓	✓							Focus on diffusion mfg, but also now services	SMEs	Public
Innovation Skills and Development Initiative, Atlantic Provinces, Canada (2000)			✓		✓					Absorptive capacity building cross sector	SMEs	Public
MaRS, Toronto, Canada (2005)	✓	✓	✓				✓	✓	✓	Medical	All	Public led science park
GTS (Godkendt Teknologisk Service), Denmark (early 20th Century)	✓	✓	✓	✓	✓	✓				Focused areas, inc biotechnology & aerospace	c88 per cent SMEs, but also larger companies & public sector	Commercial terms, Free SME health check
Kohsetsushi Centres, Japan (late 19th Century/20th Century)	✓	✓	✓				✓			SMEs, Mfg		Free, Low cost
COMET (Commercialising Emerging Technologies), Australia (2004)		✓		✓	✓			✓		Wide ranging	SMEs	Grant & success fees
Imec, Belgium (1984)		✓	✓				✓		✓	Micro & nano technology cluster focus	Large companies	Public and private

The extent of impact evaluation evidence across the selected organisations and programmes is varied. For those institutions focused on collaborative R&D the emphasis is on examining input measures (such as the number of SMEs worked with or the proportion of commercial research) or output measures (such as the number of patents registered or spin-out companies). The assumption being that the market based approach provides the best test as to the value of the services being provided to companies. However, it also, in part, reflects the difficulty of measuring outcomes. With US, Canadian and Australian programmes, where direct grant assistance has been provided, more formal evaluations have been undertaken.

For the Fraunhofer Institutes revenue generated from collaborative research along with indicators of the commercialisation of activity are key metrics. An evaluation of one of the Society's institutes, the Fraunhofer IBMT, highlighted a number of key impact metrics alongside more general comments about its role in contributing to the federal government's biomedical cluster strategy. The institute for biomedical engineering was established in 1987 in the Sarr region of Germany to work with the two universities to develop new medical devices (itself a spin-off from another Fraunhofer Institute). Over this period the institute grew from 3 employees to 230 based around 40 R&D groups across 3 locations. It generates 31 per cent of its revenues from industry collaboration, holds 20 patent licenses and has led to three spin out companies (Fraunhofer IBMT, 2009). Overall the institute is viewed as having made a positive contribution to the development of a biomedical cluster in the Sarr region. More broadly the Fraunhofer Institute approach is viewed as an effective bridging model; by blurring the boundaries between universities and research centres, these institutes have managed to create an effective pipeline of knowledge exchange which has put Germany at the forefront of European manufacturing and applied research (see Box 5.1). Discussion about developing Technology Innovation Centres in the UK has been influenced by the Fraunhofer model.

Another German example of business-university engagement is the Steinbeis Foundation which enables SMEs to access expertise from universities through technical assistance and training. Established in 1971 in Baden-Wurtemberg the foundation receives support from the government for contract research and industry and operates on a highly decentralised basis. The primary service areas are consultancy (new technologies, process engineering, marketing, product development, management and sales) R&D projects, company expert reviews and training and further education. While funding is not provided directly, undertaking a business plan in conjunction with a centre is highly regarded by potential investors. The Steinbeis' customer base is not restricted to SMEs, although SMEs are a primary focus.

The US Manufacturing Extension Partnership (MEP) is a long-standing business support and knowledge transfer programme which operates through regional and local delivery networks to allow customisation of its offer. A recent evaluation of the US MEP found that the service reached 10 per cent of SME manufacturing firms, although only about 2 per cent were provided with in-depth assistance. The MEP Next Generation strategy highlighted the importance of increasing the penetration of its services and also developing its innovation support services - moving beyond more traditional lean manufacturing advisory services (Stone & Associates, 2010). One of Canada's main programmes of support for SMEs, the Industrial Research Assistance Program (IRAP), has focused on high-technology - with an increasing emphasis on innovation over the years. An assessment of IRAP found that the availability of non-reimbursable grant support increased firm's R&D activity and was a critical feature of its success (see Box 5.2).

Box 5.1: Germany: Fraunhofer Institutes

The **Fraunhofer Society** (established in 1949) provides innovation support to SMEs (around 50 per cent of the customer base), as well as larger firms and the public sector, through 59 institutes across Germany. These institutes focus on applied contract research services, specialise in targeted technologies (across 12 areas including biotechnology, nanotechnology and materials) and provide highly customised services to companies (either individually or in consortia) delivering R&D projects of a significant scale. The institutes have core institution funding accounting for a third with two thirds coming from industry contract research. Part of the service offer to companies is a technology day, which after an initial discussion, leads to a customised day presentation and discussion with experts from across the institutes. This focuses on technological changes, trends and immediate research requirements. The institutes can undertake activity outside their local area, and the society operates overseas in joint venture. For example in Scotland Herriot Watt University is developing a 'Fraunhofer-UK Centre in Agile Micro-Manufacturing' in collaboration with a number of Fraunhofer Institutes.

Box 5.2: US and Canada: MEP and IRAP

The **US Manufacturing Extension Partnership** (MEP) provides industrial services for manufacturing SMEs across all states via 59 centres and 300 offices and employing 1,000 professional specialists. The MEP offers a down to earth approach to technology transfer rather than being driven by high-level research targets, providing customised services to tackle the needs of companies. The focus of the MEP is on SMEs, although it does support larger companies and supply chains. The decentralised model allows each centre to customise its services and determine the best delivery model (in-house or brokered services). The MEP funding model combines state, federal and company sources. The centres employ staff primarily with an industrial background and movement in and out of industry is encouraged to ensure skills and knowledge are refreshed.

The **Industrial Research Assistance Program** (IRAP) established in 1962 is Canada's main technological support programme for SMEs and is administered by the National Research Council. Its central objective is to stimulate innovation in SMEs and provides both technical and financial support in manufacturing and increasingly the service sector. However, IRAP places an emphasis on firms that are technological and innovation orientated with its services having a high technological and innovation content. The programme recruits staff with business expertise, as well as technical and training backgrounds. The programme provides non-reimbursable grant support to firms to increase their R&D activity - which is regarded as a key feature of its success.

Box 5.3: 'Innovation Check' for Danish SMEs

Denmark's GTS group of technology institutes offers an 'Innovation Check' scheme which provides free counselling for enterprises with up to 250 employees, with the purpose of creating growth through innovation. The innovation agent helps identify development possibilities in the enterprise (e.g. through the introduction and combination of new technologies or the use of new methods and practices). The agent also guides the enterprise through the initial phases of a development project and arranges contact to relevant national and international R&D and knowledge sources which can support the innovation process in the enterprise.

For example, an Innovation Check at the oil lamp manufacturer Blindkilde initiated a new innovation process and helped the company through the downturn experienced during the financial crisis. The Innovation Check served as a launching pad for the process, which led to a business concept and a new company - Agowa. The Danish Technological Institute was Agowa's partner in the idea development phase both at the strategic and tactical level. Through new knowledge and guidance Agowa developed an environmentally friendly and safe vegetable lamp oil. The company reported: 'The innovation agents and the subsequent cooperation with the Danish Technological Institute provided much more than new knowledge and guidance. We got a partner who supported our product and who believed in our ideas.'

Source: GTS

Box 5.4: Cluster based approach MaRS Canada

The **MaRS Centre** is a public/private partnership combining incubator space with the delivery of intensive business support and information services for entrepreneurs and businesses. The Institute is housed in the MaRS Centre which is next to Toronto's leading teaching hospitals and University of Toronto. The Centre is a 700,000 square foot home for research labs, offices and event facilities. The Centre opened in 2005 with \$50 million provided from three tiers of government and \$12 million from private sources. It receives \$15 million a year in operating subsidies from government with the rest of its \$30 million annual budget covered from private donations and fee recovery. It also is responsible for managing a \$30 million innovation fund from the provincial government's research and innovation Ministry for technology, managing technology transfer programs on behalf of 14 Canadian universities. MaRS' strategic objective is to build successful global businesses from Canada's science, technology and social innovation sectors. Its advisory services are focused on the following areas: advanced materials and engineering; cleantech; information and communication technology; life sciences; health care; and social innovation.

Source: www.marsdd.com

In contrast to the Canadian IRAP grant based approach, the GTS Advanced Technology Group in Denmark sells its services on commercial terms to businesses. GTS (Godkendt Teknologisk Service) is a group of nine independent, not for profit, Danish research and technology organisations which constitute the core of the national technological infrastructure. It is one of Denmark's largest consulting networks with approximately 2,900 employees, offering their services in Denmark and abroad. Funding sources include private research contracts - with the majority coming from larger companies. The institutes develop and offer technological services within their respective specialist fields. Customers are private businesses, as well as public authorities, both national and international. GTS services include business development, training, R&D and focuses on SMEs (around 88 per cent of the client base). Through collaborative projects, intellectual property rights are jointly developed with various university groups with the aim of co-marketing of the technology. For example together with venture and corporate finance partners, GTS established a seed financing company to support commercialisation of university research in the area of biomedicine and biotechnology. While it sells its services to businesses it does offer a free 'Innovation Check' for SMEs - through a nationally funded programme (see Box 5.3).

The Australian COMET (Commercialising Emerging Technologies) programme provides competitive grants to support the commercialisation of innovative ideas combined with an expert advisory service (using a network of providers paid through success fees) providing a wide range of business support services from marketing through to capital raising and technology support. An evaluation of the programme found that while the programme was making a positive contribution to the commercialisation of innovations in small and micro companies, it could be improved through the addition of an in-house grant for prototypes and additional support for trade fairs. It also found that the use of success fees had enabled it to draw on high quality advisory support from the private sector.

The MaRS Centre in Toronto, Canada, provides an example of a cluster approach based around an existing research organisation. Since its inception the centre has spun-out 400 companies in such sectors as bio-tech, green technologies and ICT, and currently has 40 companies in residence which make use of its research facilities (see Box 5.4). The Eindhoven High-Tech Campus provides a similar example of leveraging off an existing leading edge company to provide a new cluster of activity focused on health and life sciences. Phillips adopted an open innovation approach and allowed other companies onto its research site in 2003 - providing R&D labs, office and incubator space. The site currently is home to 90 companies and 7,000 employees²³.

There are many other international examples of institutions and approaches to stimulating business innovation and growth. In reviewing the above examples, there are a number of critical success factors that can be identified:

- they are embedded in regional and business communities, with strategic management and goals, effective governance, and sustainable business models;
- they offer highly customised and flexible intensive business support (including networking, business planning, technology support, coaching and mentoring, collaborative R&D, and access to finance services);
- although diagnostic and on line tools are increasingly used, relationships and projects are developed through on-the-ground expert personnel;
- they seek to develop long-term relationships and build trust with businesses;
- they establish long-term networks with HEIs, business intermediaries, consultants, and public bodies; and
- they have established strong brands through providing quality-led assistance.

²³ www.hightechcampus.nl/viewfile.php/426

UK business & innovation programmes

Over the past decade, there was an expansion in the number of business and innovation support programmes offered in the UK. In 2006, it was estimated that there were some 3,000 business support schemes of various kinds, including by central and devolved government, regional development and local agencies, universities, and other organisations (see Richard, 2008). At that time, the government announced plans to reduce the number of programmes and to elevate Business Link - a nationwide information, guidance and support services programme - to serve as the primary access point for business seeking assistance.

In addition to this effort to rationalise the number of support programmes, this period saw a continued series of modifications in the ways in which these services operated. Publicly-sponsored business support organisations increased their focus on informing, diagnosing and brokering (IBD) services and eschewed hands-on or direct consultancy and open-ended relationships with firms. There has also been a focus on trying to identify and support firms with high-growth potential and other changes such as the simplification of business support products and in contractual delivery (to single providers regionally, common branding and a universal route into the service). Additionally, Regional Development Agencies sought to link business services with other innovation assets (such as universities, R&D expertise, clusters, key sites, incubation centres, science parks) and develop partnerships and networks at the regional level. Attention was given by RDAs to the development of public sector regional venture capital products to address gaps in venture capital and development finance.

Alongside Business Link, a range of specialist business and innovation support programmes were developed across the UK. The Manufacturing Advisory Service (MAS), funded by BIS, provides support to manufacturers through 9 regional offices in England, and through offices in Scotland and Wales²⁴. UK Trade and Investment (UKTI) offers assistance to firms in exporting and to foreign firms investing in the UK²⁵. Other support initiatives have been sponsored by the Technology Strategy Board (TSB) - the UK's national innovation agency. These include a set of national technology or application-oriented business networks or Knowledge Transfer Networks (KTNs).

The Business Link's regional advisory services in England is closing in 2011. The Regional Development Agencies will close in 2012. The TSB indicates that it plans to support about 15 KTNs (rather than the current 24). TSB also supports Knowledge Transfer Partnerships (KTPs) which develop project-based relationships between universities and companies. There are about 40 KTP advisors across England, Wales, Scotland and Northern Ireland, with additional KTP offices in most UK universities. Additionally, the TSB offers a Small Business Research Initiative (SBRI) which provides early stage high-technology firms with support to prove ideas and develop products.

One of the developments in business support in recent years has been the introduction of innovation vouchers. Innovation vouchers seek to address the problem that SMEs often are not aware of the potential scale of benefits from accessing external knowledge, and then do not know how to access the expertise that might be available (DIUS, 2008). Vouchers (ranging in value from £3,000 to about £7,000) have been made available to SMEs so that they can purchase external advisory and technical services (usually from universities) and to 'nudge' them into new knowledge relationships. With the demise of the Regional Development Agencies, most innovation voucher schemes in England are ending (although they may be maintained in Scotland, Wales, and Northern Ireland).

²⁴ www.mas.bis.gov.uk

²⁵ www.ukti.gov.uk/home.html

A recent UK government departmental report (Department for Business, Innovation & Skills, 2009) reviewed the effectiveness of various UK business development and competitiveness programmes. The study team examined findings on components of programme additionality, including deadweight, displacement, and the multiplier²⁶. More than 280 evaluations at the regional and sub-regional level were reviewed, although not all studies had observations for every component. At the sub-regional level, deadweight was higher for individual enterprise support and science and R&D infrastructure projects than for internationalisation support; sector and cluster support programmes ran a higher risk of displacing other activity; and inward investment and internationalisation interventions recorded higher multiplier effects. In terms of net additionality (with leakage and substitution effects also considered), individual enterprise support and support for the internationalisation of business both performed relatively strongly, above the levels for science and R&D infrastructure and sector/cluster support. It could be misleading to view these programmatic results in isolation. For example, enterprise support or science/R&D programmes can help to develop firms that are then strong candidates to participate in internationalisation activities. However, this does highlight the relative value of enterprise support measures coupled with support for internationalisation and exporting. Other studies have reinforced these

results. For instance, a PricewaterhouseCoopers analysis of RDA investments (Department for Business, Enterprise and Regulatory Reform, 2009) reviewed 110 evaluations of RDA interventions over the period 2002 to 2006. It was found that achieved returns (new gross value added compared with programme spending) was highest for individual enterprise support and inward investment (at 12.0 and 13.5 to 1 respectively), with lowest returns for science, R&D and innovation infrastructure investments (3.4 to 1). It is likely that science, R&D and innovation infrastructure investments need a greater elapsed time for their full benefits to emerge.

Within the broad category of business and innovation support, there are a range of programmes and delivery approaches. Broadly these programmes include mainstream general business support as predominately delivered through Business Link and specialist and/or more intensive support focused on particular segments (manufacturing companies or those with high growth) or in stimulating innovation. A series of evaluation studies have examined these programmes. Evidence from these studies is summarised in Table 5.2 and key findings are outlined below.

²⁶ Deadweight is defined as an intervention undertaken to promote an activity that would have occurred without the intervention. Displacement is the degree to which an increase in productive capacity is promoted by an intervention at the expense of other businesses or areas. The multiplier comprises the additional net impacts on the wider economy resulting from an intervention.

Table 5.2: Summary of business and innovation support programmes: approach, cost-effectiveness and impacts

Programme (with reference)	Type of Assistance	Delivery Model	Target Segments	Unit cost	Economic Impact (GVA per firm/ROI)
Business Link Local Economic Impact (Mole et al., 2008, 2011)	IDB Universal, Intermediate & Intensive advisory support	Mixture of managed & light touch	Universal service and targeted programmes	£7k / assist	£15k per firm 2.2:1
South West Business Link (SQW 2009b)	IDB Universal, Intermediate & Intensive advisory support	2 BLOs contracts and 3 delivery areas	Universal service and targeted programmes	£1k avg. / assist	£4k per IA and £2k per UA 4.2:1 or 11.3:1 cumulative
NW High Growth Programme (Ekosgen, 2010)	Mentoring support of up to 10 days per firm	Private (Winning Pitch Plc)	Growth potential 20 per cent per annum, any sector	£10k / assist	25:1(estimated)
NWDA Knowledge to Innovate	Intensive support of up to 6 days to embed a culture of innovation	In-house, delivered in North West England by WM Enterprise	SMEs over 10 employees (Micro considered)		No evaluation available, programme operated from 2007-2009
Knowledge Transfer Partnerships (Regeneris, 2010)	Grant support for placement of associates (graduates)	HEI providers	SMEs & large firms	£57k / partnership	4.7-5.2:1
Innovation Vouchers (BIGGAR, 2010)	Grant support to purchase services from HEIs	Private providers	SMEs	£3k to £7k / voucher (£4k avg. Scotland)	1.3-1.8 (Scotland, 33:1 inc..future potential)
North West Trade Programme (DTZ, 2010)	Export advisory service	In- house advisory team	Companies in or seeking to enter export markets		20:1
Grants for Research & development (GRAND) (PACEC, 2009)	Grants for research and to develop technologically innovative products & processes (scaled according to size of firm)	Firm & external support	SMEs (10 employee , 50 & 250 cut offs for different levels of R&D support), any sector	£56k & £4k on external advisory innovation services	2.5:1 or 10:1 cumulatively
Manufacturing Advisory Service (MAS) (DTZ, 2007)	Five service lines free helpline, diagnostic review, training and networking events, consultancy support, and signposting	Mixed in-house and brokerage	All size of firms, SME subsidy for technical assistance. Average of 10.7 days of support provided per firm	£12k to £16k / assist	1.4:1 to 8:1 (over 5 years)
Innovation Infrastructure SEEDA (Regeneris, 2008)	Provision of innovation and knowledge transfer & high quality business support services	External contracted service	Start-up and innovative firms	£3.3k (£3k to £43k range) / assist	2.7:1 cumulative (42:1 inc. future potential)
Leading Enterprise & Development (LEAD, 2007)	Leadership skills programme focusing on the personal and professional development of the owner manager	Lancaster University Management School	Micro-businesses in the North West (majority services, 24 per cent mfg & food & drink	£13k / assist	£100k to £250k annual sales increase. Programme operations 2004-2006.

Is intensive business assistance better?

A 2006 evaluation of Business Link found evidence that intensive business assistance was more effective than non-intensive assistance and that the evolving approach in focusing intensive support on younger companies had some merit (Mole et al., 2008). The authors concluded that deeper assistance to fewer firms was likely to be a more effective use of public sector funding than broader support to more firms (Mole, et al., 2011). Similarly, a 2007 evaluation of the MAS found that intensive assistance was recognised by recipient businesses as more effective in delivering benefits than general business support (DTZ, 2007). This is an important finding, given the tendency of recent UK government policy to stress diagnostic and brokerage services for enterprises, rather than expert consultancy and technical assistance. The MAS evaluation also highlighted that there was considerable scope to increase private sector income generation where intensive support is being provided. Others have noted latent demand from MAS clients for support services focused on market growth and innovation (Ford, et al., 2009).

What's the evidence on deadweight?

There is significant variability of deadweight across the programme categories. While this is the case on average, specialist programmes, such as MAS and GRAND (Grants for Research and Development), reported lower deadweight than general business support programmes. However, not all programmes providing more intensive support have achieved low levels of deadweight²⁷. For example during the mid-2000s, the South East England Development Agency (SEEDA) promoted a range of innovation services to SMEs in seeking to increase its knowledge-based economy. Although a relatively high number of firms stated that they had developed new products with the opening up of new markets, the overall additionality ratio was low at 23 per cent with high levels of deadweight in the programme (Regeneris, 2008).

SEEDA acknowledged that support should be refocused and targeted on businesses with the greatest potential (the evaluation highlighted that programme managers were focused on outputs rather than impacts) to innovate and grow.

²⁷ Arguably, there is a greater likelihood of deadweight when focusing on high-growth potential companies, since some of these highly-motivated companies would have grown without public support. Whether they would grow as fast, to the same level, or in the same locations are among the factors that analyses of deadweight would consider.

Does targeting firms matter?

According to the MAS 2007 and Business Link 2006 evaluations, the evidence indicated that younger companies do grow faster. For GRAND, a recent evaluation found that the awards made were broadly the right target firms and market segments - the largest penetration rates achieved were in mechanical engineering, instrument, electrical goods, chemicals and R&D sub-sectors (PACEC, 2009). Targeting support on more innovative firms might increase gross impacts but would run the risk of increasing deadweight, while less innovative firms would lead to less technological benefits. An evaluation of SEEDA's innovation infrastructure programme found that the bulk of the jobs and sales gains came from a small number of larger companies (Regeneris, 2008). A NESTA (2009b) study finds that 6 per cent of UK firms generated a majority (54 per cent) of jobs generated between 2002 and 2008. Arguably, the targeting of innovation support should focus not just on such high-growth firms, but also on the next group of firms who have the potential for growth through innovation (thereby widening the base of innovative firms adding jobs to the economy). Additionally, there are other important innovation and business support objectives, including stabilising existing high-value adding firms and supply chains, improving productivity and quality, expanding exports, and fostering low-carbon performance. Rather than narrowly targeting just to a handful of firms, conurbation-wide growth and economic resilience is likely to be best fostered by a segmented approach where a broader range of foundation firms are encouraged to be more innovative, productive, and competitive. This suggests targeting services to firm needs and opportunities.

What's the evidence on economic outcomes and spillover effects?

There is evidence that more intensive and specialist assistance has achieved greater economic impact. For example the evaluations of Business Link and Business Link South West (Mole et al., 2008; SQW, 2009a) found that more intensive support had a higher economic impact. The evaluation of the North West International Trade Programme estimated a return on investment of 20:1 (DTZ, 2010). For GRAND, while the analysis did not prove that the level of support, or days of support, had a positive impact on employment, Gross Value Added (GVA) or sales - this unexpected finding being explained by the time lag in benefits - companies that exported and those firms operating for fewer years experienced more positive business performance changes. More generally the BIS portfolio analysis indicated that above average multiplier effects were generated by inward investment and internationalisation projects. However, GVA impacts are not clear cut, for example MAS and SEEDA Innovation Infrastructure programmes compared to Business Link general business support. This is generally seen as being due to economic impact lags and limited evidence on spillover effects.

Overall the evidence indicates that more intensive business support is regarded more highly than general business assistance, and this can lead to a greater willingness to pay for services. Further, greater economic impacts have been reported through targeted and specialist support programmes (International Trade support, KTP, and High-Growth Programmes) reflecting a focus on new products, markets and exporting as a feature, but also in supporting and developing management skills. There is evidence to suggest that approaches to stimulating innovation, such as innovation vouchers and coaching, mentoring and leadership programmes, have made an impact - with high levels of demand experienced from firms. However, these programmes have involved significant levels of public sector subsidy.

6

**Recent UK
innovation and
business support
debates**

Recent debate on stimulating business innovation and growth

Over the past three or so years, multiple policy and research reports on business and innovation support in the UK have been published. The findings and views put forward in these studies have been influential on the current government's approach and on debate about future business and innovation support in the UK.

As noted earlier, NESTA (2009b) has found that 6 per cent of companies in the UK with the highest growth rates contributed over half of 2002-2008 employment growth. These 'high-growth companies' - which were found to be spread across the country, all sectors, in areas of high-technology and low-technology, and were not just start up or young firms - had one feature in common; they were far more likely to innovate. The conclusion drawn by the NESTA report was that innovation drives business growth, and that public sector strategy should focus on promoting innovation and on those companies with high-growth potential. The report identified the need to encourage and support innovation, whether through financial instruments, effective use of government procurement, technology transfer policies or support for innovative clusters. It highlighted the importance of policies that facilitate creation of market orientated innovation services which facilitate the emergence of high-growth firms without requiring government support agencies to pick winners.

The Hauser review of the role of technology centres in the UK (Department for Business, Innovation & Skills, 2010d) concluded that there was a need for a new approach to public investment in technology and innovation by developing centres that focus on platform technologies and those with large global markets (for example software for renewable energy, composites and advanced manufacturing).

Internationally the range of functions at Technology and Innovation Centres (TICs) includes basic research, applied research, technical and commercial services and specialist skill acquisition. All are aimed at enabling established businesses to innovate. The Hauser review proposed a network of Technology and Innovation Centres in the UK which would carry a unique brand (similar to the Fraunhofer Institutes in Germany) and earn a considerable proportion of their operating costs from services to industry, but with core public sector funding. The Technology Strategy Board is now initiating a programme of TICs, as noted earlier.

James Dyson's report *Ingenious Britain* highlighted the importance of exploiting knowledge through collaboration between companies and universities and the need to support high-technology companies, along with other key measures in raising esteem for science and engineering (Dyson, 2010). Dyson identified the need for around five new university/industry institutions capable of becoming world-class centres of excellence providing a forum for sharing of knowledge between academia and business. He cites examples such as Rolls-Royce University Technology Centres, IMEC in Belgium²⁸, Fraunhofer Institutes in Germany and Daresbury Science and Innovation Campus as good practice. The report emphasised the need to allow universities and business to lead in the development of clusters and rationalisation of public sector led venture capital funds to enhance their efficiency and effectiveness.

²⁸ www2.imec.be/be_en/home.html

The Work Foundation argued that growth over the next 10 years will be driven by knowledge-based industries and that high-growth companies will increasingly demand higher-level skills (Lee, 2010). The report highlights four broad sectors which will underpin UK business growth over the next decade: the creative industries, manufacturing services, low carbon industries and high-tech and high-value added networked services. Cities with strengths in these sectors will be set to gain, as will those that have a strong skills and private sector base. In order to support a private sector technology-led recovery, universities and further education colleges will also play a crucial role. The report identified a number of areas related to business support that will be equally important. These include the move from blanket policies which focus on all SMEs to targeted support for high-growth firms (including high-growth SMEs), reform of venture capital support, the use of public sector procurement to foster innovation, and maximising linkages between universities and business. The report specifically recommends the creation of 'local innovation panels' and the integration of these into LEPs. It suggests that this could be done by encouraging universities and further education colleges to lead on the creation of innovation panels, linked to city-based innovation funds which will support enterprise, knowledge diffusion and the growth of clusters.

The potential for public procurement to play a greater role in fostering innovation among SMEs has been highlighted. Recent studies have reviewed the Small Business Research Initiative (SBRI) and its role in promoting innovation in SMEs and the engagement of the private sector to provide innovative solutions for the public sector (Richard, 2008; Bound and Puttick, 2010).

In a recent study examining high-growth firms and exporting, it was found that more innovative firms were not only more likely to grow faster, but they were also more likely to export (Department for Business, Innovation & Skills, 2010b). While for most SMEs exporting may occur after being in business for a number of years, the report highlights that

high-technology start-up companies are effectively 'born global' serving export markets early in their life or from their outset. However, this study noted that innovation itself is not sufficient to generate productivity improvements; rather innovation business support should be focused on those firms with export potential to be most effective. It also advocated that support should be targeted on self-selecting firms rather than, more costly, proactive targeting.

In discussing whether publicly-sponsored business support policy should be focused on those companies with high-growth potential, a key question raised is that of the effectiveness of general business support compared to more intensive programmes. This involves consideration of the level of deadweight, the scale of economic impact being achieved, and the coordination of services. Importantly, the view of targeting only high-growth potential companies is not supported by all. Pro Manchester in its recent research on enterprise cautioned against the fashion of abandoning support for low value added 'lifestyle' businesses in favour of gazelles, noting the importance of both in an eco-system of innovation and enterprise (Pro Manchester, 2010). Experience in the United States has shown that manufacturing businesses which lacked (or had lost) a strategic growth orientation could be transformed with appropriate mentoring and coaching (Manrique et al., 2008).

The recent studies cited above confirm that innovation drives business growth. They also suggest that while there remains a case for broadly-based business support, there are needs to carefully target publicly-sponsored resources to fostering innovation in firms and, within this, considering how innovative companies with high-growth potential can be supported. The recent UK studies also highlight the need for new approaches to promoting technology and innovation, to address the fragmented nature of the existing system, and to better integrate programmes and support organisations at the sub-national and city-region levels.

The UK government's new approach to business and innovation support

The mid-2010 UK election resulted in a new coalition government, with a determination to address the nation's economic and fiscal situation (by economic rebalancing and by tax and spending changes to reduce the national debt) and to reshape the delivery and performance of public services at national and sub-national levels. The government has withdrawn support for the prior system of regional development agencies in England, with the closure or reduction of a number of the mechanisms and initiatives those agencies had sponsored in support of technology development and business innovation. At the same time, albeit in the context of public funding constraints, the government has been shaping its own approach to stimulating business innovation. This new approach has resulted in structural changes to the delivery of business support for innovation and growth in England (see Box 6.1).

The process of abolishing RDAs and establishing Local Enterprise Partnerships is leading to a redefinition of roles and responsibilities in the planning, co-ordinating and delivery of enterprise and innovation support in England. At the same time the government announced new initiatives to supporting innovation and growth, for example the establishment of Growth Hubs and Technology and Innovation Centres and a framework for advanced manufacturing, along with a strengthening of the role of the Technology Strategy Board in the delivery of technology and innovation support programmes centrally. These initiatives have subsequently been defined in more detail - with the Growth Hub concept evolving into a nationally contracted coaching and mentoring programme, targeted at high-growth firms.

These changes are clearly challenging the existing business support landscape - more so given their fluidity. From the perspective of LEPs, the new approach does provide for a greater local strategic role in shaping an area's economic development. However, funding for business support to stimulate innovation will be directed if not operated nationally, on a reduced scale and will be more targeted. Arguably, the government's new approach can be viewed as leaning towards a technology-push approach, and one where spatial and distributional issues are of less importance than national economic growth.

It is clear that the delivery role of LEPs is extremely limited. Initial ideas for cross-LEP Growth Hubs are being reshaped, with new proposals for a national coaching and mentoring programme. The MAS continues to have a national and local delivery structure. The TSB will take the national lead in advanced innovation products and TICs. The LEPs are charged with local leadership and coordination roles, including the promotion of private sector partnerships in their areas. The LEPs are likely to become important in encouraging the take-up of national programmes, in shaping local strategies that bridge innovation and economic development, in other coordination activities, and in advocacy for their areas including to central government.

Box 6.1: Stimulating UK innovation: A new approach

The UK Government outlined its new approach to supporting local economic development in its 2010 White Paper *Local growth: realising every place's potential* (HM Government, 2010). This set out what the new approach would mean for business, innovation and technology, as well as the role of the newly created Local Enterprise Partnerships.

In the case of business improvement, the government highlighted that this has been high cost and generalist in nature and poorly targeted, signalling the need for more efficient, effective and targeted approach to use of public money. In future there will be two primary routes to access government-funded business advice for SMEs, a national web site and a national call-centre (the regional structure for Business Link will cease to exist as of November 2011). The government is also in the process of reducing the number of business support products down to 13 under its Solutions for Business (SfB) offer.

In terms of promoting high-growth and innovation, relevant proposals relate to Growth Hubs, Innovation, Sector Policy and Low Carbon.

- *Growth hubs* were initially announced providing specialist advice, coaching and mentoring to firms with high-growth potential, and acting as a catalyst for growth by bringing together firms with finance and equity and networks of other professional and knowledge services. They were to target firms with the highest growth potential (technology-based and non-technology based), work across LEP areas, and with the proposed network of TICs. The government will instead deliver a national coaching and mentoring programme aimed at supporting an additional 10,000 firms nationally to become high-growth enterprises, rather than establish area based Growth Hubs. This curtails the use of the concept to create sub-national hubs which can act as a focal point for business and innovation services.

- *Innovation* is viewed as central to the task of restoring the UK economy to long-term growth. The Technology Strategy Board will be the main delivery body for supporting innovation and incentivising business innovation for the national benefit (taking over responsibility for RDA innovation programmes). This will include the establishment of an elite network of TICs (initially 6 to 8 TICs will be established delivering against TSB identified broad platform technology areas²⁹). The TSB will oversee the creation, management and long-term funding of TICs. (Funding for TICs will draw broadly equally from three sources: business funded R&D; public and private R&D projects; and core funding for long term investment in infrastructure, expertise and skills investment). LEPs may make proposals in relation to other aspects of the innovation infrastructure (in which RDAs previously had a financial stake) and will play a key part in advocacy and relationship functions. This in effect centralises the provision of innovation services across England with a limited strategy and delivery role for LEPs.
- The *sector policy* will continue to focus on framing national policies towards sectors of national importance and to this end will work with LEPs to ensure local issues are taken into account. In support of this the Manufacturing Advice Service (MAS) will continue to provide specialist advice to manufacturing companies as part of a national structure delivered locally. The LEP are not expected to be engaged in the actual delivery of services to firms.

²⁹ The first three TICs will be developed around a number of existing research centres and will focus on high value manufacturing, cell therapy and offshore renewable energy. Each TIC will be technology specific and take account of the existing landscape - for example, by implementing a mix of single site and/or hub and spoke models. Ten other platform technology areas have been identified by the TSB (including; digital media/creative industries, resource efficiency, transport systems, ICT, electronics, and photonics and sensor systems) as candidates for a further three TICs.

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- *Low carbon* is highlighted in the new approach. In the sphere of 'green innovation,' support for basic research and R&D will be delivered centrally in recognition of the strategic investment requirements. The role of LEPs is seen as one of coordination of activities in areas such as green low carbon clusters, green infrastructure and supply chains. This provides recognition of the importance of LEPs in promoting low carbon uses across a range of mainstream activity - from housing to area based regeneration - but limits its role in the sphere of business support.

The government's projected role for LEPs is one of providing leadership and coordination and supporting local people and business, including in the areas of regeneration, business support, and employment programmes, there is also an emphasis on working with nationally led schemes - as public business support programmes are centralised. The government also recognises the importance of agglomeration effects for other areas apart from London and the role of big cities in driving sustainable private sector-led growth.

Source: Local growth: realising every place's potential, (HM Government, 2010) & BIS updates

7

**Stimulating
business
innovation
in Greater
Manchester:
What next?**

Implications of the changing environment for stimulating business innovation

Innovation intervention involves stimulating more enterprises to innovate for business growth and sustainability and on developing effective networks, relationships, and intermediaries to enable firms to innovate, keep or move to the forefront of technology and management, and exploit current and new market opportunities. Greater Manchester has many challenges as well as opportunities to strengthen its innovative capabilities and performance, for the benefit of its businesses and residents and to contribute towards the achievement of national economic goals. To this end, a major task for the Greater Manchester LEP will be to ensure it articulates and addresses barriers to innovation and business growth, maintains the continuity of effective innovation business support services, and develops local partnership structures to maximise the area's drawdown of nationally-led innovation and business support programmes.

Greater Manchester is far from starting from a blank page in this regard. However, as MIER (2009a) highlighted, it is clear that the recent productivity growth performance of Greater Manchester's businesses is below its potential, and there is a need to accelerate innovation to increase the conurbation's growth rate. Greater Manchester LEP should enhance its efforts to embed innovation across companies, as the evidence suggests that firms that innovate are more likely to increase sales, productivity, exports and employment.

Achieving these goals will involve increasing the number and capacity of Manchester firms engaged in innovation, improving the ability of firms to articulate their needs and absorb knowledge, and strengthening the strategic orientation of local firms towards innovation and business development. There is a need to work on both the demand side (encouraging firms' to explore innovation) and the supply side (building the innovation provider network).

There has been a trend towards open and networked innovation models and spreading innovation through supply chains - away from more traditional technology-push and product based models - and recognition of the importance of developing an innovation ecosystem. This places greater emphasis on interventions focused on the promotion of knowledge exchange, capacity building, and collaborative projects between SMEs, larger firms, technology transfer institutes and universities. There is also recognition that innovation is relevant to all types of firms, high and low-technology and covers innovations that are both 'new to the firm' and 'new to the market.'

The international evidence indicates that support for stimulating business innovation is generally expert-led, with intensive support delivered flexibly in a responsive manner. The type of business support provided is a mix of soft business support services, as well as more technical support - the offer being based on the needs and opportunities of individual companies. The UK experience is that those services where specialist or intensive support is provided report greater impacts (and lower deadweight), higher satisfaction rates, and greater potential for private sector contributions.

Figure 7.1 Stimulating business innovation: Weaknesses identified in Greater Manchester

Key business innovation issues identified across the conurbation

Expansion space for specialist science-based businesses & incubators
Access to seed, start-up and early stage funding
Business support (investment ready, development of management teams, mentoring & access to non-executive directors)
Assistance with problem solving and idea generation
Slow development of next generation broadband
No single Greater Manchester access point for innovative businesses and support
Weak internal networks & supply chains
HEI-firm interactions
Levels of applied R&D & commercialisation of ideas

Source: Greater Manchester Innovation Prospectus (Manchester: Knowledge Capital, 2009) and MIER (2009a)

Greater Manchester companies have already identified areas of perceived weakness in the conurbation's innovation system. These include business development support services (investment ready services and coaching and mentoring), assistance with problem solving and ideas generation, the role of HEIs in knowledge exchange and bridging roles, and the lack of a single access point for innovative businesses (see Figure 7.1).

Recommendations for stimulating business innovation across Greater Manchester

As the Greater Manchester LEP and other organisations in the conurbation consider how best to develop innovation support, the development of longer-term vision and implementation is vital. As illustrated in the international innovation programme cases examined earlier, a long-run perspective is essential for the development of approaches and for the building up of organisational capacity and social capital. While there are clearly short-term considerations, including the current tight constraints on public sector funding, and the requirement to respond to immediate central government policy

changes and opportunities, it remains vital for public, private, and university decision makers in Manchester to articulate and make progress on developing longer-run service strategies to stimulate business innovation across the conurbation. There are a number of questions that arise from the current debate and evidence base that need to be considered in shaping future innovation support in Greater Manchester.

The first set of these questions relates to targeting. Given the correlation between highly innovative firms and high business growth, should public sector support focus on promoting innovation in those companies with growth potential - rather than broadly based business support programmes for start-up and SMEs? And, within this, should support be more tightly focused on knowledge-based growth sectors? Such questions arise not just from the need to obtain value for money given scarce public (and private) resources, but also from concerns to ensure that the most appropriate strategies are in place to foster growth in Greater Manchester. There is evidence, as discussed in this paper, about the importance of generating innovative high-growth firms, given their disproportionately positive impact on out-of-area

exports and employment. It is critical that an effective metropolitan innovation support system is able to address the needs of high-growth SMEs, with customised and advanced services and by mobilising and stimulating capabilities, resources, networks, and connections that will enable such firms to grow and be attracted to Greater Manchester. High growth firms will typically be knowledge-intensive. However, it is likely that there will be opportunities for growth outside of formally-defined knowledge-based sectors, including in manufacturing. Moreover, it is also evident that significant returns on investment will accrue in working with SMEs that grow more slowly. These 'foundation firms' are often important contributors to supply chains, generate out-of-area sales (bringing money into the city), and are sources of employment. Innovation services can help many of these firms to raise productivity, reduce their carbon footprint, and ensure business stability.

A second set of questions revolves around the integration of innovation services in Greater Manchester. Despite reductions in central government funding and the closure of some programmes, the innovation support landscape in Greater Manchester will continue to be populated by a series of organisations with public, private and university sponsorship. If the varied national sources and policies for support for technology and innovation provision are fragmented, how can local strategies address this? And, how can there be a better integration of programmes, higher education institutions, and businesses to foster and embed innovation in Greater Manchester's SMEs? These questions are important for the Greater Manchester LEP and for other public and private organisations in the city. Strategically, we suggest a 'hub and spoke' approach. On the supply side, there is a need for a core organisation (the 'hub')

to both offer innovation services and to bring together and integrate other programmes and services (the 'spokes'). This would enhance Greater Manchester's applied development and innovation institutional infrastructure to complement the conurbation's world-class science base. On the demand side, there is a continuing need to develop innovative ways of increasing the proportion of 'innovation active' firms, through awareness, coaching, procurement, prizes and other means. This strategy will involve local partnership development and efforts to maximise the drawn down of national innovation support programmes.

Greater Manchester - by itself - cannot build a business support system comparable to the nationwide systems established in Germany, the United States, and other leading economies. Greater Manchester can combine with other cities and organisations across the UK to make the case for reinvestment in national support for business innovation. However, Greater Manchester is not just limited to advocacy: the conurbation does have resources and capabilities that it can marshal to significantly improve, co-ordinate and target innovation services to local firms. Indeed, to the extent that Greater Manchester succeeds in doing this, it will establish models that can advance the national policy debate, as well as fostering conditions within the conurbation that better support innovation among existing firms and which can attract new enterprises.

We propose the following strategies through which Greater Manchester can build up innovation support for local enterprises.

1. Developing Greater Manchester innovation leadership

The policy, funding and institutional landscape for stimulating business innovation is in a state of flux. Greater Manchester has a newly-established LEP, together with its 'centres of excellence' (previously known as the Manchester Family of Organisations). Against this backdrop it is vital that Greater Manchester builds on the strengths of its existing innovation eco-system, maintains continuity, but equally reflects on how it can best shape its business support offer to accelerate private sector innovation. Greater Manchester should evolve a strong institutional approach to stimulating business innovation that looks beyond short-term funding streams and towards one that will have longevity. Specific action suggestions include:

- The Greater Manchester LEP should seek to promote a business-led innovation partnership network and develop a strong leadership role in shaping innovation policy. This should involve expanding the membership of the Manchester Innovation Group (which is now a sub-group of the LEP) with a view to increasing private sector representation.
- With the support of private sector innovation partners and the Manchester Innovation Group, the Greater Manchester LEP should ensure that key private sector, public sector, and university actors are working together to establish long-term and visible policies and arrangements to support business innovation in the city-region.
- Developing strategic intelligence on the enterprise and innovation base in Greater Manchester, including business innovation performance, needs and opportunities in a comparative framework (with selected key benchmark UK and international cities). Within this, drawing from existing data sources, New Economy should produce regular updates of a Greater Manchester 'innovation index' as part of its Manchester Monitor and feed this into the Greater Manchester Strategy Indicators to provide a better understanding of progress by the

conurbation on this agenda. Further, New Economy should undertake special studies and engagement processes with local firms to ensure updated insights are available to inform policy and programme development.

- The Greater Manchester LEP should strongly articulate the contribution that the conurbation can make to national economic growth and the key priorities for innovation investment. In particular, the LEP should deliver its message to central government, as developed through the Manchester Independent Economic Review and other studies, that tackling barriers to growth in Greater Manchester and deeper support for business innovation in the conurbation is in the national economy's interest.

2. Anchoring an open and accessible high-quality business innovation provider network

Greater Manchester is already developing an open innovation approach, with the strengthening of strategic partnerships and innovation network, alongside specific initiatives to promote innovation to drive economic growth. In the current climate, partners in the innovation eco-system are reviewing activities and responding to current challenges. Yet, this context also creates opportunities for longer-term vision and capability development.

The Greater Manchester LEP should focus on stimulating private sector business innovation, establishing an exemplar for metropolitan business innovation partnership delivery. Given the size of the Greater Manchester economy, its importance to the North West economy and its potential to contribute to the UK economy's growth, there is a rationale and role for a dedicated metropolitan-wide enterprise innovation support intermediary (the Greater Manchester Enterprise Innovation Centre). This could be viewed as a 'growth hub' but it would be more than this since this intermediary would both provide services to enterprises and anchor the broader network of innovation organisations in Greater Manchester.

Box 7.1: Anchoring innovation: A Greater Manchester Enterprise Innovation Centre

Greater Manchester's Enterprise Innovation Centre* will be the place to go for help and guidance in creating and growing innovative businesses and will be at the centre of efforts to build a high-performance innovation support network across the metropolitan area.

The objectives would be to:

- work with SMEs to increase the flow of fundable business propositions and increase the proportion of the business base achieving high-growth status;
- plug growth SMEs into a powerful network of HEI and private sector innovation and applied R&D services, the venture capital industry and business angels;
- provide a setting where entrepreneurs can develop and move forward on innovative ideas;
- broker applied development and innovation projects between SMEs and R&D organisations;
- develop supply and value-chain relationships between large firms and SMEs;
- help accelerate the commercialisation of university-based knowledge and IPR to SMEs;
- develop the relationship between public sector procurement and SME innovation; and
- promote SME access to national innovation schemes.

The Enterprise Innovation Centre would occupy a high-profile hub location in the Greater Manchester science and innovation network as an essential driver in the delivery of an innovation for growth strategy. The Centre would develop a spoke of relationships, with a core team working with a network of HEI, private sector innovation providers, venture capitalists, and others. The Centre's business-oriented specialists would have experience in guiding companies through innovation-led growth. Their task will be to enthuse, encourage, advise and promote innovation, and technology-driven growth in Greater

Manchester - principally to SMEs and entrepreneurs. Core team advisory skills would include business strategy and planning, engineering and information technology, human resource development, marketing, and commercialisation.

Potential activities of the Centre would include:

- expert, focused 'innovation days' where an expert team spends time providing companies with ambitious but achievable route maps to high growth through the application of technology and innovation;
- intensive business and technical support using in-house and external resources; to turn great ideas into investment and profit;
- commercialisation services for highly innovative start-up companies and those 'born global': and
- innovation awareness & network development, especially results driven linkages with Greater Manchester's universities, venture capitalists, private consultants, major research facilities and national programmes.

The business model for the Centre could be based on a mix of national, local, and private sponsorship together with fee income. Core funding (from public and private sources, not including fee income) would be used to address market failures and build up capabilities, as is the case with the German Fraunhofer and US MEP centres. The development of local sources of income would ensure sustainability. The Centre would also leverage public sector nationally delivered innovation programmes as available (e.g. KTPs, KTI, Grants for R&D, collaborative R&D), provide access to venture capital support, and encourage innovation through procurement (linking to national SBRI and developing a local SBRI programme).

*This is a working title. We seek a name that conveys what the centre will do and which is able to be sustained over the long term so as to build up brand identity with the Manchester business community, nationally, and internationally.

The Greater Manchester Enterprise Innovation Centre would be a demand-led, expert-based innovation intermediary that would promote new to market and new to firm innovations, through advice, mentoring, the marshalling of resources, and addressing barriers to growth. The Centre would address market and public failures related to information and coordination, as well as taking leadership in initiatives to build up and support capabilities for innovation in high-growth potential firms (see Box 7.1).

Working with other stakeholders, the Greater Manchester Enterprise Innovation Centre would link with other organisations in the innovation support network in Greater Manchester, including private, HEI and public networks. Relationships would be established to understand capabilities, initiate and track referrals, and develop collaborative programmes, projects and teams. In part, virtual web-based mechanisms could be used to assist enterprises and service providers to navigate this system. However, more fundamentally, there is a need to ensure that personnel within these networks are aware of one another and of their services and capabilities, and that these staff members reach out throughout the conurbation to small and medium-size enterprises to ensure that firms are aware of these services and resources. Ideally, Greater Manchester's innovation support network should be established on a long-term basis, able to survive through changes in central government policies, so that a stable interface can be presented to area firms. Strong local public and private support is essential in securing sustainability.

To achieve effects at a metropolitan-wide level, scale is important. Not all of Greater Manchester's 94,000 SMEs would benefit from or be able to absorb innovation upgrading assistance. But a sufficient number of enterprises would need to be reached over a multi-year period to make a difference. The likely target markets in Greater Manchester for innovation services, including more intensive services for potential high-growth firms, total approximately 15,000 to 33,000 firms, or 16 to 35 per cent of the total stock of Greater Manchester firms (See Box 7.2 for details). This target is a combined number for the Greater Manchester Enterprise Innovation Centre plus other organisations active in providing innovation support services in the conurbation. Almost all of the assisted firms would be SMEs, using the official threshold of 250 employees or less, although some firms in the up to 500 employee range could be assisted. Larger firms (of whom there are far fewer in the conurbation although their presence is vitally important) would be involved through supply chain and networking initiatives, consortia, and possibly secondment of staff (to offer hands-on coaching through the Enterprise Innovation Centre.) Based on these estimates, a Greater Manchester innovation business support strategy that achieved a 10 per cent penetration rate annually based on the target segments outlined would seek to deliver between 1,500 and 3,300 assists. A 20 per cent penetration rate would reach between 3,000 and 6,600 firms annually. A 10 per cent level of market penetration does represent a useful and achievable target (reaching about half of target firms in Greater Manchester over 5 years, excluding repeat business). A stretch goal that approached 20 per cent market penetration for the whole system would leverage greater impacts, but also require more resources. It would be reasonable to start off in the first few years to reach a 10 per cent target, then - in subsequent years - to ramp up to closer to 20 per cent. As always, an on-going challenge will be to ensure additionality and multipliers from innovation intervention, and to minimise deadweight and displacement.

Box 7.2: Target markets for innovation support in Greater Manchester

To ensure value and effectiveness, innovation services should target innovation support on SMEs that: (i) have growth potential, across all sectors, (ii) are in value added manufacturing and high-technology sectors serving national and export markets (iii) have export potential, or are part of a supply chain to firms that are exporting, and/or (iv) are able to contribute to economic efficiency and sustainability. This is a broad set of firms. Indeed, as NESTA observes, a wide range of sectors contributed to growth and not just those in high-technology, and more mature companies also contributed to output and employment growth. Other commentators have noted that smaller companies (less than 10 employees) have limited absorptive capacity to engage in the innovation process and there are often opportunities from engaging with non-SME companies (companies employing up to 500 employees).

SMEs comprise more than 99 per cent - or about 94,000 - of Greater Manchester's businesses (2009 data from the UK Inter-Departmental Business Register). The metropolitan area housed 76,200 very small firms with fewer than 10 employees and 17,840 small to medium-sized firms with 10-250 employees. The number of high-growth companies across Greater Manchester has been estimated by New Economy at around 300 (or 5.7 per cent of firms employing over 10 people and growing at 20 per cent over the past 3 years). Within the Greater Manchester enterprise population, there are several business segments which are prime target markets for innovation support services. These segments are not mutually exclusive.

- **Key sectors:** number of companies in key Greater Manchester industry sectors identified in the MIER baseline review (including life sciences, advanced manufacturing, ICT, financial and professional services) = approximately 27,000.
- **SMEs and larger firms:** number of companies employing 11 to 500 people = approximately 18,000
- **SME subset with absorptive capacity:** number of companies employing between 11 and 50 = approximately 15,000.
- **Mature firms:** number of companies in business between 2 to 9 years = approximately 33,000.
- **High-growth approach:** delivering a conurbation 'fair share' of the government's priority of 10,000 additional high-growth companies would equate to around 400 per annum (i.e. 4 per cent of the national target).

Not all of these firms need or can benefit from innovation services. A rough estimate of the firms in the above segments that would be promising candidates for innovation support services ranges from 15,000 (targeting service to SMEs with absorptive capacity) to 33,000 Greater Manchester firms (targeting services at mature firms). These firms would not all be assisted in one year; rather, between 10 to 20 per cent of firms could be targeted. A 10 per cent object would target between 1,500-3,300 firms assisted annually, while a 20 per cent target would reach 3,000 to 6,600 firms, with a range of innovation support services depending on firm needs and opportunities. Both levels would represent a higher market penetration rate than would result from a strategy of following only the central government's rather narrow high-growth target (which would imply assisting about 400 firms annually).

3. Raising demand-led business support to promote innovation for growth

Greater Manchester LEP should promote a demand-led innovation support model based on high-quality intensive advisory support flexible to business needs (linked to other specific business support requirements, such as business angels, venture capital finance, incubator space, national business support and innovation products, and technology innovation centres). The Greater Manchester LEP and the Greater Manchester Enterprise Innovation Centre, working with the network of innovation service providers in the conurbation, could initiate a series of actions to foster awareness of the importance of, and create demand, for innovation. The following are examples:

- Promote high profile annual innovation awards, in conjunction with the universities, Pro Manchester and the Manufacturing Institute, to raise the profile of innovative ideas generated across Greater Manchester.
- Further development of supply chain, cluster and collaborative projects between leading companies operating in global markets with enterprises and organisations associated with major urban innovation projects (e.g. Oxford Road Corridor, Manchester's proposed Technology Innovation Centre (TIC), the Sharp Project, and MediaCityUK). The Manchester Investment Development Agency Service (MIDAS) could have a key role in this, with the direction of activity being two-way: linking innovative global companies (and potential inward investment) to Manchester and connecting born global innovative local SMEs to external customers and markets.
- Explore with the UK Manufacturing Advisory Service (MAS) ways to better link with existing innovation service providers and with the Greater Manchester Enterprise Innovation Centre to strengthen innovation support to manufacturing SMEs across the conurbation - to promote growth and the rebalancing of the Greater Manchester economy.
- Build on the conurbation's international strengths in low carbon, biotechnology and creative & digital to focus on the conversion of basic research into applied knowledge and commercial ideas. This involves promoting the conurbation in technology platforms of national and international significance and importantly developing supply chains around these technologies to increase the density of high-value added economic activity.
- Promote a Greater Manchester Innovation Day scheme (providing continuity and building on the experience of current innovation voucher scheme). This would provide SMEs with an invitation ticket to access to innovation providers to discuss their business ideas and problems and develop an action plan.
- Move to implement an innovation public procurement programme (in conjunction with the UK Technology Strategy Board) and a proof of concept fund to support highly-innovative start-ups (linked to regional and national venture capital funds).
- Promote Greater Manchester innovation competitions to raise awareness of the conurbation's innovation achievements and to promote the pipeline of highly-innovative ideas. Link these competitions with sources of innovation and financial support and with potential customers.

Greater Manchester should evolve a strong institutional approach to stimulating business innovation that looks beyond short-term funding streams and towards one that will have longevity.

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