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## From 'Knowledge Capital' to 'Innovation System'

Follow-up of Universities and the City Region as a 'Knowledge Capital' 2008

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### Purpose

As early as 2003, Manchester Science Parks sponsored a workshop that brought together leading players in the Manchester City region to develop a vision of how universities could contribute to the then newly established 'Knowledge Capital initiative'. This exercise succeeded in many respects. Not only a vision and the respective action plan was jointly agreed and followed, but the knowledge base was also formed for a later vision creation exercise: that of developing an Innovation System in the Manchester City Region by 2015.

### Powerhouse of the Knowledge Economy

The 2003 foresight exercise took place in the context of the strategic review of the Manchester Science Parks (MSP) to improve links between its tenant companies and universities and the city's interest to capitalise on its concentration of higher education institutions and its cultural and leisure facilities. At the same time, the two most research-intensive universities were in the process of a merger that would later form the UK's largest university. Thus, the opportunity emerged to drive the process much further over the next five years and secure Manchester's position as a powerhouse of the knowledge economy.

MSP sponsored a scenario workshop in order to play a more proactive role both in the development of linkages

with universities and in terms of local and regional policy-making.

The two objectives of the exercise were:

- To develop a shared vision of the future of business–university linkages in the city region of Manchester. The aim was to link the strategies of the universities in the area with the city's own vision of its future as a 'Knowledge Capital'.
- To move towards a shared vision among senior stakeholders, such as local political leaders, heads of universities, heads of key intermediaries and industry associations, of what success in this area would look like in five years' time and to begin the process of developing a road map to get there.

### The Success Scenario Process

The workshop was organised following the success scenario process, which intended to develop a shared vision among senior stakeholders and the consequent

roadmap to realise this vision. A key element of the method was that those who took part were also in a position to implement the outcomes, which they had already bought into, at least in part, through their own participation and contributions.



The workshop participants came from business and commerce, national, regional and local government, intermediary organisations and the city's four universities. Participants were sent a briefing document setting out the objectives of the workshop and several background documents.

The overall design of the process was based on three plenary sessions, interspersed with two rounds of facilitated break-out groups (the first on regional drivers and the second on modes of linkage), articulating elements of the scenario.

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## Five Success Dimensions

The output of the workshop was summarised in the form of a scenario for success in 2008. This brought together the key drivers and shapers identified by the participants and highlighted the different but related dimensions of this successful outcome. Five dimensions of change were identified to present the success scenario.

- **Infrastructure:** The reach of the knowledge producers spreads to all parts of the city region: a network of hotspots of university-industry interfaces has spread away from the campuses across the city region. Entrepreneurs are attracted by the combination of café culture and easily located specialised spaces for innovation. The Manchester Science Park brand defines the quality level.
- **Human Resources:** Manchester becomes a net importer of graduates: an exodus of graduates to Southeast England has been reversed as high quality jobs in small entrepreneurial firms attract the best. Rising teaching quality has pervaded the entire Manchester education system with mentoring being one of its hallmarks. Highly qualified and entrepreneurial immigrants are actively sought.

- **University Missions:** Each Manchester university is recognised as world-class in terms of its mission: following the emergence of the new University of Manchester as a world-class, research-driven institution, Manchester's other two universities achieved similar levels of excellence within the context of their own missions. All three treat reach-out as an integral activity but approach it with distinctive and complementary styles.
- **Inward Investment:** Integrated policies attracts massive investment by multinationals and entrepreneurs: integrated packages combining land use, infrastructure and academic linkages have attracted huge investments by multinationals in the region, providing a natural market for start-up firms. Regional resources are used to gear and attract national and European investment.
- **Networking:** Firms of all sizes and ages in Manchester source knowledge and people and meet development needs from the universities: networking is seen as the key to businesses understanding how universities can help them. Much better interfaces now allow medium-sized firms to work with academics, while business joins city government in securing and supporting centres of excellence.

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## Progress Made

Around 2010, an assessment of the progress made in these five dimensions was carried out.<sup>1</sup> In relation to infrastructure it was acknowledged that Manchester City Region had numerous innovation assets that already acted as hubs or that were seeing significant investment over the coming years. In fact, infrastructure was seen as the most developed element of the city region's innovation system with 69% of survey respondents believing that it was nationally excellent or world-class. However, certain gaps were still present, including specialised facilities such as grow-on space for laboratory-based businesses, specialist incubation facilities, flexible, easy-access space for a variety of enterprises, and slow development of next-generation broadband and wireless connectivity.

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## Ranking Improved

In relation to university missions, significant achievements were noted. The new University of Manchester ranking jumped from 78th in the world in 2004 to 41st in 2009. In doing so, it has moved from 24th in Europe to seventh and from eighth in the UK to fifth. The new university was complemented by the city region's other universities also achieving high levels of success. The scientific strengths were also seen to attract non-university public sector research into Manchester to create a new innovative growth pole for the UK. Survey respondents believed that Manchester City Region's knowledge assets were world-class, more than any other category. A third of the respondents also believed that Manchester City Region was a world-class location for learning.

Quality of human resources did not present significant improvements, however. Nearly 30% of city region residents had degrees, but this was no more than the national average and well below the rate in the US. Too many people lacked even basic skills and had very low aspirations, while too many Manchester residents lived in areas ranked as the most deprived in the country.

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<sup>1</sup> By Alex Roy of New Economy  
([www.neweconomymanchester.com](http://www.neweconomymanchester.com))

Raising skill levels was identified as the key issue on which the city region should focus in order to raise productivity and tackle deprivation, and further steps were taken in this regard. Nevertheless, perceptions of skills and future potential were positive. Over half of respondents thought that the availability of talented people in Manchester City Region was nationally excellent or world-class. In addition, the high rates of graduate retention (over 50% within 6 months and 91% of these still in the NW after 2 years) were encouraging for raising future skills.

The 2003 workshop had an impact on creating an inward investment initiative in Manchester. In 2005, Manchester City Council (MCC), Manchester Inward Investment Agency (MIDAS) and Manchester Science Parks came together to form a partnership, branded as Sino-Ventures in the UK, with funding from the Northwest Regional Development Agency. The scheme was launched as a pilot project aimed at attracting and supporting overseas science and technology businesses, mainly from China, wishing to establish a base in the UK. During the lifetime of the project, 27 companies (from Greater China, USA, India, Germany, Japan, Sweden, Australia and Norway) soft-landed in the Manchester International Innovation Centre located on MSP's Corridor site. Of these 27 companies, nearly three quarters have remained within the North West region. Moreover, the project supported 70 overseas companies, created 76 gross additional jobs (FTE) and 32 net additional FTE jobs up to February 2008. The inward investment project generated a gross GVA of £4.8 million.

In 2010, Greater Manchester still accounted for half of all creative and digital investment in the region. It was

also seen to have particular strengths in life sciences and biomedical sciences, accounting for 75% of the sector in the North West, recognised as a member of the 'European Super League' of biotech clusters by Strategem, and ranked among the top 50 in the world by Boston Consulting.

However, two weak points were also noted in relation to inward investment: lack of international connectivity and linkages and access to seed, start-up and early-stage funding.

## Innovation Manchester Network

Finally, several initiatives were set up to increase networking. The Innovation Manchester Boardroom was created, which provides a forum for top private, public and social sector innovators to discuss key issues, challenges and opportunities. It has the primary long-term objective of developing leadership across sectors/interests and changing how people connect and work with each other.

The Innovation Manchester Network teams were launched in 2008 in recognition of the need for strong private sector involvement in the push for a more innovative city and the need to develop purposeful cross-sector networks for innovators. Innovation Manchester brought together over 70 of the city region's top business leaders and key city partners, who identified and prioritised ways in which Manchester's capacity for innovation could be increased and developed those ideas into live projects, such as *Manchester International Festival: Creative Learning (MIF Creative)*, *Manchester Masters* and *Manchester: Integrating Medicine and Innovative Technology (MIMIT)*.

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## From 'Knowledge Capital' to 'Innovation System'

The 2003 foresight exercise achieved its objectives to create a vision for the Manchester City region as well as a road map towards realising it. Five years later, notwithstanding certain gaps, significant progress was marked in all the five success dimensions.

The output of the 2003 exercise had additional impacts. The exercise paved the way for a new foresight exercise, commissioned in 2006 by MSP with a more global look at science parks. The main objective of the workshop was to define the next stage of development for mature science parks also called 'third generation science parks'.

In addition, the 2003 exercise formed a valuable knowledge base upon which the next foresight exercise could draw in 2010. The 2010 exercise led to a vision of the Manchester innovation system in 2015 that has seen a step change in its effectiveness and laid out the key actions to get there. The same success scenario pro-

cess was applied bringing together senior stakeholders from the public, private, academic and third sectors.

The vision was built around the idea of an innovation ecosystem that governs and facilitates the flows of people, knowledge, finance and services between the main actors and institutions involved in innovation. Manchester has a reasonable starting position in each of these dimensions, with the knowledge base being the strongest and the access to finance the most challenging. Cutting across all four flows is the need to increase connectivity.

Key actions to achieve the vision were defined under five specific dimensions as follows.

**People and skills:** *Enterprise and entrepreneurship at the heart of the curriculum, and movement of people and ideas across sectors.*

An understanding of business and enterprise, of creativity and entrepreneurship should be a core component of the education system and the basis for as natural a career path as employment. Colleges and universities should respond quickly to user input to curriculum design. A city region mentoring scheme should be devel-

oped to support understanding and mobility between public and private sectors, between education and business and to allow senior managers of small firms to benefit from the experience of their equivalents in medium and large firms.

**Innovation ecosystem:** *Manchester as a market friendly to innovative products and services that links SMEs to demanding customers and harnesses the links between cultural and technological sectors.*

Public procurement practices should demand innovation and not exclude SMEs through initial qualification requirements. SMEs need help to respond innovatively to the demands of large private sector customers. Cross-sector barriers can be broken down by bringing together individuals around key challenges such as creating a low carbon city region. Artists or designers in residence at technology companies should be complemented by technologists in residence at cultural organisations.

**Demanding innovation:** *Public services better connected to user demand through engagement, and new products and services trialled in Laboratory Manchester.*

Public sector management teams can become private sector delivery companies that are responsive to consumer demand, while communities should seek and promote innovative solutions to local social problems. The Laboratory Manchester concept should offer large

scale trials built upon the city's reputation for delivering effective public private partnerships. Manchester should develop a low carbon economy ahead of the curve.

**Finance:** *An effective city region proof of concept fund and a business angel network.*

A city region proof of concept fund should be launched to encourage and facilitate the development of new intellectual-property-based businesses. At the same time, business angel activity in the city region should be encouraged by enabling wealthy individuals to learn about investing in innovative companies, preferably from previously successful angels.

**Telling the story:** *A coherent narrative about the Manchester innovation ecosystem developed that helps to coordinate the messages about the attractions of Manchester as a place to live, work and play.*

Manchester should have a coherent narrative about its innovation ecosystem built on its history but focused on present and future strengths in the low carbon environment, health and life sciences, sports and new media. The narrative should be used to inform a coordinated talent marketing strategy to attract the best students and workers. This should be supported by a Web 2.0 platform that would provide access to innovation stories and also to technological opportunities with market potential.

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