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From Third Generation Science Parks to Areas of Innovation

PLENARY 1

Science Parks Shaping New Cities

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The New Role for STPs: Driving City Change

From Third Generation Science Parks to Areas of Innovation

Executive Summary

In 2012, three of England's mature, successful, third generation science parks changed their ownership structure in response to the strategic objectives of their stakeholders and the changing economic climate in the UK. This paper describes the situation at Birmingham Science Park – Aston (BSP), Manchester Science Parks (MSP) and the University of Warwick Science Park (WSP) near Coventry. The common drivers of the ownership changes are identified, and the vision of their owners to develop the parks into what might be described as Areas of Innovation.

From an analysis of these three UK science parks, and of two additional clusters of innovation in Manchester which have not evolved from a science park, is derived a proposal that STPs and Areas of Innovation can be defined by five key characteristics. This proposal is offered as a topic for debate at the forthcoming IASP World Conference.

1. Introduction

In 2012, three of England's mature, successful, third generation science parks changed their ownership structure in response to the strategic objectives of their stakeholders and the changing economic climate in the UK. All three, Birmingham Science Park – Aston (BSP), Manchester Science Parks (MSP) and the University of Warwick Science Park (WSP) near Coventry, chose a different structure for their new incarnation, providing further evidence of the old saying that "If you've seen one science park – you've seen one science park." MSP is now majority owned by a private sector developer, the University of Warwick has acquired 100% ownership of WSP and BSP is now wholly owned by Birmingham City Council.

1.1 Economic Conditions: All three parks have been operating within the context of a stagnant UK economy since the global banking crisis in 2008. The economy of the UK in June 2013 is smaller than it was in 2Q 2008 and has twice met the technical definition of a recession – two or more consecutive quarters with negative growth – but essentially the economy has been bumping along at zero growth for five years. The net public sector debt is 75% of GDP, twice what it was in 2008 and unemployment is around 8% of the economically active population[1] compared with about 5% when the financial crisis hit.

In the UK, Many of the conditions which led to the 2008 banking crisis have not been resolved. Our major banks are still 'too big to fail' and there is no reason why it couldn't happen again. More serious from the point of view of science parks is that the banks attitude to investment risk is very cautious indeed, making it extremely difficult for small companies to access loan finance for growth.

1.2 Policy Environment: The UK Government has fully embraced the idea that innovation in all sectors of the economy is essential for growth without fully understanding what that means for individual businesses or how to create the conditions necessary for innovation to thrive. At the same time, 'austerity measures', the treatment that has been prescribed for nearly all European countries, has led to severe cuts in public spending and a decline in consumer confidence. Unlike most other European countries, regional development agencies in the UK have been abolished and most public spending decisions have been centralised. Only gradually, the

[1] http://www.bbc.co.uk/news/10604117

major cities are assembling their own 'growth funds' from whatever sources are available. Manchester is leading the field in this area. The overall picture from a policy perspective therefore is one of nice talk but little substance.

3. The Science Parks

STPs are essentially place-based initiatives; they respond to every aspect of their local environment, physical, cultural, economic, which is why they are all unique. The appendix to this paper describes the local context of the following three examples in statistical terms, but the stories of the three parks' recent development are also dependent on the individuals involved, and on their experience and ambition.

Manchester, Birmingham, Coventry and their neighbouring regions are all examples of how the decline of the UK's manufacturing sector in the 1980s led to significant job losses and social decline. All three science parks were founded in response to these conditions, involving academic and public sector partners in an attempt to develop jobs from the knowledge created in the universities. Over the intervening 30 years they all succeeded, surviving the dotcom boom and bust and benefitting from the developing understanding of the growth cycle of technology based firms. But as the UK recession continued into the second decade of the twenty-first century, they all found themselves with a similar problem: how to finance their further growth.

3.1 Birmingham: Birmingham Science Park Aston[2], formerly Aston Science Park, began its operations in 1983 on a 22 acre site adjacent to the campus of the University of Aston in the centre of the city of Birmingham. Its original owners were Aston University, Birmingham City Council and Lloyds Bank. Most of its accommodation was in renovated old buildings, with a new custom-built facility, Faraday Wharf, opening in 2001.

Its current Chief Executive, Dr David Hardman, was appointed in 2008 at the beginning of the UK recession. With an aging estate requiring redevelopment, a shortage of public funding for new accommodation and too many public sector tenants that were about to be abolished, he had to move quickly to restructure the organisation. The outcome was withdrawal from the old estate, reducing the area under management by BSP to 25,000 m^2 of space on a 14 acre site with 100% ownership by Birmingham City Council.

BSP has always looked outwards in respect of its business support services, engaging with clients from across the city region with a range of interventions. Most recently, a partnership with CISCO led to its concept of 'a science park without walls', using CISCO's video-conferencing technology to connect businesses with investors and partners from across the globe, irrespective of geographies, so promoting 'borderless innovation'. This initiative has been acknowledged in the UK as a fundamentally new approach to how science parks support start-up businesses.

Following the acquisition, the City Council has positioned BSP at the core of its plans for the city centre. It will benefit from being within a nationally recognised enterprise zone[3] and adjacent to a new station for a new high-speed train link to London. In May 2013, part of the BSP site was renamed the Innovation Birmingham Campus[4], and is described on its web-site as: *"…the gateway to the Eastside learning and knowledge quarter"*. A master-plan has been developed for part of the new campus, christened Digital Plaza, and a local private sector construction company has been

[2] www.bsp-a.com

[3] UK Enterprise Zones confer a range of advantages on businesses locating within their boundaries; this includes property tax relief, simplified planning consent, infrastructure funding and a range of business support programmes. See http://bigcityplan.birmingham.gov.uk/offer/

[4] www.innovationbham.com

selected as the joint-venture partner for the £35 million development, with the first new building, iCentrum™ creating an additional 3,000 m^2 of new accommodation.

3.3 Manchester: Manchester Science Park was founded in 1984 on a 15 acre brownfield site adjacent to the University of Manchester campus. It differs from the other two examples in that it has always had private sector shareholders owning one third of the company with a further third held by local government (Manchester City Council 27%, Salford City Council 3%) and the rest by universities (University of Manchester 27% and Manchester Metropolitan University 10%). As it matured, MSP acquired or developed its own buildings with a combination of retained profits, capital grants and bank lending until by 2000 it owned and operated 20,000m^2. It also developed a second site in a JV with one of its shareholders, and won contracts to operate on a further two sites: One Central Park where it was a 20% shareholder and Salford Innovation Park, owned by Salford City Council.

MSP's main site is located on the Corridor[5], an area south of Manchester's city centre where major players in the health and life sciences sector are located, as well as the Park's two university shareholders and the Central Manchester teaching and research hospital. In 2006, the Corridor Investment Partnership was formed to transform an *ad hoc* group of facilities, owned by independent institutions, into a new destination in the city that is globally recognised as a place that is original, creative and smart – or in other words, as an Area of Innovation. The founding partners were Manchester City Council, the University of Manchester and Manchester Metropolitan University and the Central Manchester Hospital.

One of the key elements of the vision for The Corridor is to retain the knowledge based companies that are created or attracted there, and the obvious location for such businesses is an expanded science park campus. Advantages associated with physical expansion of MSP included its international reputation as a leading science park, its history as a profitable commercial company and the fact that three of the four member institutions of the Corridor Partnership are also shareholders in MSP. The Partnership also recognised the value of the science park's role as orchestrator and animateur of the local innovation system. However, the main disadvantage was that MSP did not have the resources necessary to develop rapidly enough to a scale that would satisfy the ambition of the Corridor partners. The owners of the Park therefore decided to seek private sector investment to facilitate growth of MSP's Corridor campus.

Following a public tendering process, the Manchester-based property management and development company, Bruntwood, became a majority shareholder in MSP in April 2012. The two universities and two city councils retained their shares and their representation on the board in order to safeguard the vision of MSP as a science park and not just a specialised property company. Bruntwood also became a member of the Corridor Partnership and committed to begin the development of MSP's campus within five years of its acquisition.

3.2 Warwick: The University of Warwick was founded in 1965 on a large campus straddling the boundary between the city of Coventry and the county of Warwickshire; the University of Warwick Science Park occupies 42 acres of that site. WSP was one of the first university based science parks in the UK when it was founded in 1982. It was established as a joint venture between the University (35%), Coventry City Council (45%), Warwickshire County Council (9%) and West Midlands Enterprise (11%). Most of the buildings on the Park were developed jointly by WSP and Coventry City Council except for one which the University owned and occupied.

Dr David Rowe was Director of WSP from its inception until the change of ownership and, from the outset, he ensured that WSP was not just a specialist property organisation. The Warwick

[5] www.corridormanchester.com

Manufacturing Group[6] (WMG), an academic department strongly business focussed particularly in the automotive and aerospace sectors, was formed two years before WSP. These two organisations were a very powerful combination in the early days of the Park's development, with WMG attracting overseas companies with relevant technology which was integrated into their training programmes. This led to joint university/business research activities and tenants for the Park.

Unlike Manchester and Birmingham, WSP is not in a city centre but makes use of facilities and services on the university campus. The physical juxtaposition of the Park and the University facilitates partnership between entrepreneurs and academics and it has become a hub for the innovative businesses of the region. Like MSP, it has expanded its operations into other locations, now providing its services to early stage small high tech SMEs on four sites.

As the UK recession began to bite in 2009, WSP was cash rich but it also had an aging estate that required significant investment over the following five years and not enough financial capacity within the University and Local Government partners to fund it. There were two other factors that influenced the University's decision; firstly the risk attached to an organisation that shared the University's brand but was not totally under its control, and secondly the assumption since it was founded that the Park would eventually become wholly owned by the University. In 2012 the University of Warwick acquired sole ownership of the science park.

4. Common Drivers of Change

In describing the recent changes at these three premier science parks, I have tried to identify the reasons why the owners of each of the three organisations decided that it was necessary to change the structure of their Parks. Many drivers are common because they are a result of the financial realities in the UK today and because the parks considered are mature and successful. Essentially, the owners of all three parks have recognised the value that their science parks deliver over and above a financial return: For the public sector they deliver enhanced economic activity in the modern knowledge economy; for the universities, they are solid evidence of the 'impact' derived from the public funding streams; for the private sector, they reduce the risk of speculative development. These benefits are particularly valuable under current economic conditions as described below:

4.1 Commercial - It is extremely difficult outside London to assemble a commercially viable development case for a new 'standard' office building, much less a science park building with small, flexible spaces and generous public areas to facilitate connectivity. The income generated from market level rents just isn't enough to repay the building cost and deliver a developer's margin. As regards financing new buildings, there is very little public money available to subsidise new science park buildings and what there is requires a significant commitment in terms of jobs created. In the UK the reporting and audit requirements of this kind of funding are extremely onerous. The banks' attitude to risk capital extends to the commercial property market and they are unlikely to offer much more than 50% of the total cost at an unpalatable interest rate.

Nevertheless, all three parks have demonstrated the value of the science park model compared with 'ordinary' commercial property in terms of consistently high occupancy levels, a pipeline of growing companies and fewer tenant company failures. They therefore offer a lower risk commercial investment which often, one or more existing tenants prepared to commit to a pre-let. Furthermore, all three parks can fund their business support services from their existing commercial income or through national and European funded projects that they have become expert at winning and delivering.

[6] http://www2.warwick.ac.uk/fac/sci/wmg/

On this basis, expansion of all three parks becomes an attractive objective and from their owners' point of view, they are efficient vehicles for regeneration or expansion of existing areas of their city region.

4.2 Innovation – MSP's annual evaluation of its tenant companies provides solid evidence that they are more innovative, pay higher salaries, last longer and are more internationally connected than the average company in Greater Manchester[7]. Some of the companies even admit that MSP's innovation services contributed to their success through additional sales or investment. However, whether or not MSP influenced the outcome, it follows that expansion of science parks is very likely to deliver an increase in the number of these innovative, high-growth companies.

All three parks considered in this paper have accommodation and services designed to attract and facilitate the growth of companies in their early stages. As they grow, they provide high productivity jobs for local people, mainly graduates, and often build a relationship with the local university or research institution, facilitated by the park. They learn from their colleagues and neighbours, they trade with them and partner with them, as they mature they become the mentors. If we are looking for examples of a new kind of capitalism, where companies are driven to generate shared value for all stakeholders, they can be found on science parks.

4.3 Impact - A further UK Government response to the financial situation has been to cut public funding of all institutions including universities. Furthermore, every grant application for research funding has to demonstrate the impact – social and economic - that will derive from the research project. Consequently, universities have recognised that ownership of a science park and the access to SMEs that this can provide, delivers solid evidence of 'impact'. Jobs for their alumni, research funding and partnerships, a convenient location for spin-out companies, an easy and local route for more business engagement – all useful functions of 'their' science park.

4.4 Inward Investment – Science parks – or areas of innovation – are regularly used as part of the offer of cities' inward investment agencies and many science parks have soft-landing programmes. These facilitate the entry of overseas owned companies to the local market by plugging them into the vital networks of advisers, suppliers, partners and customers essential to get their business generating revenue, fast.

The value to the local economy of a new entrant of this type is broader than is sometimes recognised. Obviously there's a new firm, and new jobs – and overseas owned companies tend to pay higher salaries than local grown firms – but there's also a new international link into the city with all the innovative potential this brings to the sector. Looking more long-term, as this company grows it becomes embedded in the local innovation system and is therefore much more likely to stay than are inward investments by global organisations which leave when the corporate strategy – or the boss - changes five years down the line.

5. Clusters of Innovation

There are many clusters of innovation activity around the world that are not associated with STPs. Most creative and digital media clusters have grown organically in a bohemian area of a city and respond to any attempts to measure or manage them by slipping away to the newest, coolest location with cheap space and unlimited bandwidth. Silicon Valley is not a science park but it's definitely an innovation cluster – is it an Area of Innovation? In Manchester, two of the city's key economic sectors are definitely innovative and have well-developed innovation eco-systems, but it's worth considering, for the purposes of this paper, whether or not they are potential IASP members.

[7] Greater Manchester comprises two cities, Manchester and Salford, and eight boroughs; Bolton, Bury, Oldham, Rochdale, Stockport, Tameside, Trafford and Wigan.

5.1 Sport: Tell any taxi driver anywhere in the world that you come from Manchester and they will have heard of it because of football. The city has no shame in capitalising on the fact that Manchester United is one of the most recognised brands in the world, but the sport cluster consists of a much wider and deeper range of activities.

Facilities for athletics and cycling received a major boost from the investment in training facilities that preceded Manchester's successful hosting of the Commonwealth games in 2002. Concentrated in an area called Sport City, they are the venue for the Paralympic World Cup which has been held in Manchester since 2005. Its two internationally recognised soccer teams have attracted a range of organisations to the city including the Professional Footballers' Association (the 'trades' union' for footballers), the headquarters of sportswear manufacturers and retailers eg. Adidas and Umbro, sport media (including BBC Sport) and leading legal and financial professionals specialising in sporting issues.

Manchester's universities and hospitals have degree courses and research strengths in related subjects such as sports science including the psychology of sporting excellence, training strategies, design of shoes, clothing and equipment, physiotherapy and rehabilitation. The most recent addition to the cluster, the National Football Museum which opened in July 2012 has already attracted 350,000 visitors, exceeding its first year target in nine months.

However, there is no over-arching strategy for the Sport cluster, to my knowledge the leaders of the various organisations (Manchester United FC, Manchester City FC, BBC Sport, Umbro, Adidas, universities, PFA) have never met together and probably wouldn't acknowledge that they are part of an innovation cluster.

5.2 Creative and Digital: In the last quarter of the 20th century, Manchester became a regional broadcasting centre with both the BBC and a national independent broadcaster developing major production and broadcast facilities which attracted independent producers and technical service companies to the city. This century, content creation in the city received a major injection of talented people with the development of MediaCityUK[8] on the banks of the Manchester Ship Canal in Salford. The development was anchored by the move of five of the BBC's divisions out of London to purpose built offices adjacent to independently managed high definition studios. Now joined by the independent broadcaster, ITV, the University of Salford's media faculty and over fifty small, media related companies in the Pie Factory and the Greenhouse, MediaCityUK has become a nationally significant innovation cluster. It was conceived as an integrated live/work/play location adjacent to the existing Lowry Theatre and Art Gallery and the Imperial War Museum North, and the master-plan encompasses apartments, retail, leisure and healthcare facilities served by the metropolitan light railway.

Although it received a significant level of financial support via local government (Salford City Council), MediaCityUK is owned, managed and marketed by a commercial property development company, Peel Holdings Ltd. There is an over-arching commercial strategy for the area and an acknowledgement from the key tenants that there is advantage in collaboration and in marketing the location as being greater than the sum of the parts, but there is as yet no professional organisation tasked with driving the innovation activity of the cluster. This may emerge from the (as yet to be completed) Media Enterprise Centre.

6. Conclusion - Characteristics of Areas of Innovation

IASP's timely decision to broaden its membership criteria to include the new entities that are appearing all over the world, described (after many hours of debate) as 'Areas of Innovation', begs the question of how they can be characterised. When I was first appointed CEX in Manchester, the

[8] www.mediacityuk.co.uk

naming debate was all about how to differentiate science parks from business parks. Having moved on successfully from there, we need to embrace the latest entrants to our sector without losing the clarity of the existing Science and Technology Park label. It is neither prudent nor intended that any city or village that regards itself as being 'innovative' should qualify for membership of our association. We need to retain a focus built on a membership of common interest whilst adapting to the changing world in which we operate.

In this paper I have described three examples of third generation science parks that are themselves adapting to a changing world. I have also described two other significant clusters of innovation within Manchester (Sport and Creative & Digital) which could be described as innovation clusters but not, in my opinion, as candidates for IASP membership. As well as these examples, I have drawn on the anecdotal evidence I've gathered from colleagues in IASP. Based on this evidence, I have concluded that the key characteristics of the expanded membership of IASP are:

I. A strategic plan for growing innovation activity in the Area that is endorsed by all stakeholders at the highest level;
II. Agreement amongst these stakeholders about what success would look like;
III. Progress towards success is monitored by means of a performance measurement system;
IV. There exists an organisation funded and tasked to deliver the strategy with at least one full-time executive post;
V. The innovation activity is made visible and celebrated.

On this basis, neither the Sport cluster nor MediaCityUK in Manchester qualify for IASP membership today whilst The Corridor and Birmingham Innovation Campus do. Warwick Science Park has been a member of IASP for many years and will hopefully remain so, but it's not yet clear whether it will develop into an Area of Innovation or remain as an effective third generation science park.

It's essential that we develop a set of key characteristics against which potential new members may be compared and by means of which we can communicate the essential purpose of our members to the outside world. I am therefore proposing this list for debate, firstly at the next Advisory Council meeting in June and then at our World Conference in Recife when I welcome contributions from other colleagues.

Appendix 1 – Economic Comparisons

The locations of the three example science parks are different in terms of their functional economic geography. BSP is located in the city of Birmingham, the second largest in the UK, which is governed by a single city council; WSP is in the centre of the Coventry and Warwickshire sub-region which has a long history of partnership working and integrated economic activity; and MSP is in the city of Manchester which is the economic heart of the conurbation of Greater Manchester which generates an annual GVA of £47 billion. Greater Manchester is governed by a partnership of ten local government bodies.

	Birmingham	Coventry & Warwickshire	Manchester
Travel-to-work population	4.3 million	0.8 million	7 million
Number of Businesses	75,000	36,000	93,000
Annual GVA	£18 billion	£16.8 billion	£47 billion
Universities/students	3/65,000	2/58,000	5/105,000

City of Birmingham

Key Sectors	Employment	Annual GVA
Advanced Engineering	n/a	n/a
Professional & Financial Services	100,000	£6 billion
Food & Drink	59,000	£3 billion
ITEC	n/a	£2 billion

Coventry and Warwickshire[9]

Key Sectors	Employment	Annual GVA
Automotive Manufacturing	n/a	n/a
Computing & software	n/a	n/a
Creative & Cultural	n/a	n/a
Specialist Business Services	n/a	n/a

Manchester City Region

Key Sectors	Employment	Annual GVA
Financial & Professional Services	224,000	£9.0 billion
Health and Life Sciences	163,000	£4.7 billion
Education	105,000	£3.0 billion
Creative & Digital	63,000	£2.7 billion
Sport	21,000	£0.5 billion
Advanced Manufacturing	38,000	£1.9 billion

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http://www.coventry.gov.uk/downloads/download/1045/coventry_and_warwickshire_economic_assessment_march_2011