



## Collected case studies:

### Collaborations between universities and businesses

- *Supporting collaborations*
- *Maintaining strong university-business relationships over time*

This paper brings together a number of case studies on how cities from the UK and beyond have supported university-business collaborations.

**Knowledge-intensive businesses and services are significant drivers of growth, and are increasingly based in urban areas.**

For many UK cities, universities provide their greatest concentration of knowledge and innovation, so national and local decision makers are increasingly looking to support collaborations between universities and high-growth firms.

Cities can encourage this by building cross-border networks, investing in local strengths, taking advantage of their history and brand and anchoring relationships through large firms.

**The case studies demonstrating how cities foster these collaborations and what they are trying to achieve are split into five groups:**

- **Fostering and maintaining strong university-business relationships over time**

City decision makers can support their established networks through providing long-term funding, and supporting comparative advantages.

- **Bringing together universities and businesses to validate investments**

Networks across cities can bring together research interests from universities and businesses to validate larger investments.

- **Supporting collaboration where there is comparative advantage**

Cities can target their funding at supporting collaborations where they have a comparative advantage.

- **Attracting investment to the city**

By encouraging big businesses to move into the city, and by reducing barriers in the supply chain, cities can foster university-business collaborations and make investments more attractive.

- **Supporting collaborations without getting the city involved**

In some cases, cities do not need to directly intervene in collaborations, as high-growth firms link to universities without public funding or formal support.

## Fostering and maintaining strong university-business relationships over time

City decision makers can support their established networks through providing long-term funding, and supporting comparative advantages.

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### Supporting informal network opportunities

**Lead organisations: Cambridge University and Science Park**

**Location: Cambridge**

**Year: 1973 – to present**

**Keywords: University links; Business support; Innovation**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

The University of Cambridge and its Science Park form a successful example of university-business collaboration leading to a regional innovation ecosystem. While the strong local economy of Cambridge and the University's global reputation are a unique attraction for businesses, this example provides valuable insights for decision makers in terms of fostering and maintaining strong university-business relationships over time.

Cambridge has world leading strengths in knowledge intensive services and in particular Biotechnologies.<sup>1</sup> The city now boasts over 1,000 technology and biotechnology companies, and is testament to its success in building a regional innovation ecosystem. Much of Cambridge's success has been attributed to the Science Park, which provides a link between the University and private research companies as well as an emphasis on open knowledge sharing.

The park is noted as the catalyst of what has been described as 'the Cambridge phenomenon.'<sup>2</sup> The City complements the Science Park's co-locational benefits to businesses and universities by supporting informal networking opportunities. Rather than a business directly approaching Cambridge University or vice-versa, relationships often begin at one of the city's many networking events, some of which are supported or attended by the city. The City Council maximises the potential for these relationships to develop through hosting city events such as science festivals and encouraging partners to sit on school boards. This also enables city decision makers to establish relationships with business and university representatives, learning about barriers to decision making directly.

<sup>1</sup> Centre for Cities, (2014), Cities Outlook 2014 London: Centre for Cities.

<sup>2</sup> Wickstead, S (2000) The Cambridge Phenomenon Revisited. Cambridge, UK.

While Cambridge has found its networks to be a strength, there is also recognition that networks may be becoming too numerous and specialised (our conversations estimated more than the 47 listed in 2011).<sup>3</sup> Numerous networks can be difficult for smaller businesses to keep track of and coordinate. Given that some of the most innovative collaborations come from cross-industry collaborations, having networks that are too descriptive can weaken their potential. Cities should offer businesses and universities the opportunity to network but not be too prescriptive about the target audience. University alumni provide a direct link to businesses and as such can help identify areas of collaboration that will bring mutual benefits and strengthen relationships. Many graduates of the University are employed within Cambridge's firms and opportunities for mutually beneficial collaboration are often identified through maintaining strong links with graduates. The success of this measure for other cities might be dependent on universities' retention rates.

The Cambridge phenomenon has been hugely successful over the long-term. This is in part due to, and in part reinforces, the strong historic brand image of the University and its science parks. This has not happened in isolation or overnight and the parks benefit from long-term investment as well as a globally strong economy and university. The history, local economic conditions and close links between the University and city decision makers means that the setting is unique. But cities can learn from how it built university-business relationships over time as well as the challenges in maintaining effective networks.

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### Providing resources and certainty with long-term federal funding

**Lead organisation: Fraunhofer Gesellschaft**

**Location: Germany**

**Year: 1973 – to present**

**Keywords: University links; Innovation; International**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

National policy should consider long-term funding of initiatives to develop lasting collaborative relationships between universities and businesses. Fraunhofer Gesellschaft (Fraunhofer) is a network of research institutions partnered with universities that is internationally regarded as a strong innovation ecosystem. As the primary independent applied research body in Germany and the largest organisation for applied research in Europe, it conducts research into a range of areas tailored to focus on national economic strengths and growth areas, including health, security, communication, transportation, energy and the environment.

Fraunhofer benefited from committed long-term federal funding which provided the resources and certainty it needed to reach its current level of standing and success. The institute itself acknowledges that progress from 1949 until the 1970s was limited in part due to a lack of funding.<sup>4</sup> This continued investment allowed the institution to build up the strong brand image and international reputation it holds today and which enables it to secure research contracts.

The Fraunhofer funding model provides long-term targeted funding as part of a national 'brand'. Funding comes from a range of sources including public funding through a central grant, local government support

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<sup>3</sup> Networking in Cambridge: The Definitive(ish) Guide, 2010, The Cluster. Available at <http://www.cabume.co.uk/thecluster/networking-in-cambridge-the-definitiveish-guide.html>.

<sup>4</sup> 60 Years of Fraunhofer-Gesellschaft (2009), Fraunhofer.

for individual institutions, government commissioned work and private commissioned work. The central grant funding is guaranteed over a period and is attributed with the ability of the institutes to take a long-term approach to their work. This allows Fraunhofer's partners to anticipate technology trends rather than just react to them. The Government funding is provided under what is known as the 'Fraunhofer model', whereby for every Euro Fraunhofer earns from contract research, the federal government will match with a Euro of funding. The centre itself also acts as a non-profit organisation. In this way the Government ensures any funding it provides ends up in commercially relevant projects.

Fraunhofer operates in recognition that the early stage of Research and Development is typically done in universities/research centres, while industry concentrates on implementation and the application of innovation. This typically leaves a knowledge and funding gap in terms of taking that research and developing it into a fully working prototype. This gap is acknowledged to exist in the UK and the steps Fraunhofer takes to establish strong relationships with and between universities and industry provides direct lessons for UK cities.<sup>5</sup>

The way Fraunhofer is structured also provides insight. Regional flexibility is built into the model, with individual institutions having the power to negotiate individual research project contracts and establish inter-institutional links for themselves. However there is a single independent board that shapes the key research themes which stretch across the entire network. As such it provides a single, co-ordinated network. The co-ordinated network ensures communication between the various research centres, avoiding duplication and helping to identify areas of collaboration between centres.

Germany has a strong tradition of senior academics previously or currently holding senior industry positions, which helps academic research to have a clear commercial focus. All of Fraunhofer's Research Centres and Institutes are partnered with a university to support universities in commercialising their work. Fraunhofer assists with undertaking further applied research, development, prototyping and, if necessary, small scale production. This helps attract business investors as it removes the risk that the technology will not go to market. It can also ensure innovative ideas are quickly and cost-effectively moved from the research stage to commercial products.

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### Supporting staff-sharing and international links

**Lead organisation: Fraunhofer Centre for Applied Photonics**

**Location: Strathclyde, Scotland, UK**

**Year: 2012 – to present**

**Keywords: University links; Innovation**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

National policy should consider long-term funding of initiatives to develop lasting collaborative relationships between universities and businesses. Fraunhofer Gesellschaft (Fraunhofer) is a network of research institutions partnered with universities that is internationally regarded as a strong innovation ecosystem. In 2012 Fraunhofer established its first UK headquarters in Glasgow and the Fraunhofer Centre for Applied Photonics (CAP) based at the University of Strathclyde.

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<sup>5</sup> Centre for Cities interviews and and Collaborate to innovate: How business can work with universities to generate knowledge and drive innovation, Big Innovation Centre, November 2013.

In establishing this centre, Glasgow applied the core lessons from the Fraunhofer success story. The centre focuses on a national strength – the British photonics industry is the second-largest in Europe (after Germany), over 80 manufacturers of laser-based products are headquartered in Scotland alone and the University is internationally recognised as an expert in photonics. The Centre ensures close links with the University through sharing staff with the University. For example, the Director of Research at the University's Institute of Photonics is seconded 50 per cent as the Head of CAP.

The Centre and the University also benefit from the integrated links with other Fraunhofer Centres that work in relevant fields. For example Researchers from the Fraunhofer Institute for Applied Solid State Physics (IAF) in Freiburg are cooperating with scientists from Strathclyde. Glasgow and Fraunhofer took time to establish this relationship, ensuring both were clear on how the relationship would benefit them and establishing common expectations. The first contact was made in 2010 and the relationship is based around a five-year business plan and funding package. The community and city supported this relationship, with funding provided by the University itself, Scottish Enterprise, the Scottish Funding Council and the Scottish Government as well as the Fraunhofer Society. Further stability beyond the initial funding round would enable the centre to concentrate on building a larger scale of networks over a longer time period and enable management innovation with less immediate risk.

Although it is too early to fully assess how successful this move has been and if further Fraunhofer centres would benefit the UK, the centre has performed strongly so far, gaining over £1.5 million in contract research projects.<sup>6</sup>

## Bringing together universities and businesses to validate investments

Networks across cities can bring together research interests from universities and businesses to validate larger investments.

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### Matching industry needs with university strengths

**Lead organisation: N8 Group**

**Location: North England, UK**

**Year: 2007 – to present**

**Keywords: University links; Business support; Innovation**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

The N8 group, established in 2007, is a collaboration of the eight most research intensive universities in the North of England.<sup>7</sup> The N8 benefits from an effective scale of partners built through researchers and businesses working collaboratively. By bidding together for national level funding, N8 invested in a High Performance Computer (HPC), the network then sought collaborations with businesses in cities across the North of England with a tangible offer of valuable infrastructure.

<sup>6</sup> The Establishment of Fraunhofer in the UK, Tim Holt Executive Director of Fraunhofer UK Research Ltd. Available here <http://www.auril.org.uk/NewsandEvents/tabid/1251/articleType/ArticleView/articleId/1655/The-establishment-ofFraunhofer-in-the-UK.aspx> Accessed 14/03/14.

<sup>7</sup> Comprising of the Universities of Durham, Lancaster, Leeds, Liverpool, Manchester, Newcastle, Sheffield and York.

The N8 HPC centre is based at the University of Leeds but provides access to high performance computing facilities for private sector researchers from across the North of England. The centre is funded by £3.25 million from the Engineering and Physical Science Research Council (EPSRC) and operates Polaris, one of the 250 most powerful computers in the world. Polaris enables researchers to undertake complex modelling involving large amounts of data in various different fields such as life sciences, energy, digital media and aerospace. The HPC investment was made with the aim for research to be more cost effective for both universities and businesses and provide researchers with access to state-of-the-art equipment. Individually, none of the small businesses that use it would have been able to afford the investment required to buy the computer. Similarly justifying the funding for high tech equipment to just one university would have been difficult.

The N8 sought to create new collaborations between industry and researchers by establishing and matching industry needs with university strengths through the Industry Innovation Forum (IIF). This forum identifies ways in which the HPC can be used by businesses as well as establishing relationships with businesses that approach the N8. The IIF adds further value by enabling cross sector innovation and knowledge exchange from different departments, different universities and different businesses. Furthermore the N8 and IIF makes it easier for businesses to access a single ‘port of call’ and be directed to a department or university that has the relevant expertise or infrastructure to help. The N8 are establishing other ways to reduce the cost to businesses of using the HPC.

Currently there is a focus on how equipment sharing between universities can meet the terms of VAT cost sharing models – traditionally seen as a barrier to sharing research assets. Firms are also offered consulting and training to lower the barriers they face in exploring ‘big-data analyses.’<sup>8</sup> Interest from over 100 SMEs across the North of England in the first couple of months appears to show there is the potential for this to be a significant regional asset. By working across cities, networks bring about large scale benefits that would not otherwise be realised. The N8 network used the HPC beyond their own innovative research requirements as a way of building an ‘offer’ to businesses by proactively looking for collaborations across the region. The selling point of the HPC makes it ‘worth the travel’ for businesses across the different cities and the partnership put in measures – such as flexible e-training modules and the IIF – to reduce the barriers for firms to access the equipment.

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## Fostering a culture of open innovation through collaborations

**Lead organisation: Interface Food & Drink**

**Location: Scotland, UK**

**Year: 2005 – to present**

**Keywords: University links; Business support; Innovation; SMEs**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

Cities can build networks based on comparative advantages. Interface Food & Drink is a network of universities and businesses driven by industry demand in Scotland to close a gap in innovation investment. The network aims to foster a culture of open innovation in the sector through collaborations between industry and academia. It forms part of the wider Interface group which shares research findings between Scottish

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<sup>8</sup> N8 HPC showcased to boost collaboration with industry, 2013, N8 research group. Available at: <http://www.n8research.org.uk/n8-hpc-showcased-to-boost-collaboration-with-industry/>.

Universities. Interface Food & Drink is a partnership of Scotland's 17 universities as well as industry groups such as Scotland Food and Drink, Scottish Enterprise, trade associations and trade bodies.

One example of the network's benefit was a local commercial bakery that was introduced to ultrasound technology - originally developed by Herriot Watt University for medical implant polymers - to improve the baking process of gluten free products. This cross sector innovation facilitated by a large network can result in unexpected research opportunities and in this case commercial gains from patented technology. Our interviews found that a particular attraction for high-growth firms to the Interface network was to match expertise from different universities to businesses through a single forum. The network facilitates this by matching businesses with the relevant research department from any of the 17 Universities. This means businesses don't have to spend time establishing who the 'right person' to contact is as Interface consists of a broader range of research expertise than if with a single institution.

The network supports businesses regardless of whether they are considered high-growth, but this brings its own risks. The remit to work with SMEs has meant that some early research projects were abandoned due to capacity shortages associated with smaller businesses. To combat this, Interface has worked with bringing groups of businesses with common issues together. Often these common interest groups are made up of competing firms. For example farmers from across Scotland form the Scottish Cold Pressed Rapeseed Oil Industry Group (SCPROIG) work with different university researchers to quantify the benefits of local soil conditions to their product and therefore their collective competitive advantage. Alternatively, those brought together may have a shared interest but be from unrelated business areas. For example meat, agriculture and drinks businesses all wished to lower their waste levels and the costs associated with this. Through collaborating with researchers from the mathematics departments of different Scottish universities, they have used a new algorithm based modelling techniques to cut waste.

This network works with businesses to gain the appropriate scale to invest in research and development i.e. undertaking the research may not be cost-effective for one business but forming a common interest group makes it affordable. It then matches these needs from businesses with professors and departments across 17 Scottish Universities to find the most appropriate responses. By assembling different groups of partners the network can deliver targeted solutions to problems identified by businesses; increasing the innovative advantages of the businesses and creating applied research opportunities for the universities and professors.

## Supporting collaboration where there is comparative advantage

Cities should target their funding at supporting collaborations where they have a comparative advantage.

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### Using sector specific expertise

**Lead organisations: Teesside University and Digital City Innovation (DCI)**

**Location: Middlesbrough, UK**

**Year: 2008 – to present**

**Keywords: University links; Business support; Innovation**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

Teesside University has a growing reputation as a leading business-facing University.<sup>9</sup> This support of local high-tech firms shows how a university can use sector specific expertise to collaborate with high-growth businesses in a relatively weak economy. By the end of 2013 the University was credited with helping to create around 250 companies and 450 jobs.<sup>10</sup>

Teesside University's courses in digital media and technology, including animation and computer game design, have a long standing international reputation.<sup>11</sup> The University also has connections with industry experts globally through its hosting of the International Festival of Animation and Computer Games since 2000. Middlesbrough has relatively few knowledge-intensive jobs and relatively few graduates living there.<sup>12</sup> However it does have relatively high concentrations of digital businesses.<sup>13</sup> The North East LEP also found digital technologies had the potential to be a growing sector in the region, but identified that there was little infrastructure to support growth beyond its existing level.<sup>14</sup> To address this, the university has built on its research expertise to develop DigitalCity Innovation (DCI), a partnership-based initiative to increase the number and productivity of digital and creative businesses in the Tees Valley.

Teesside's digital businesses identified a lack of a clear contact point to be a barrier in establishing relationships and engaging with other businesses in the DCI. DCI reacted by appointing a Community Engagement Coordinator to ensure a single contact who works with each business to improve their efficiency. This is further complemented by specialist workshops that offer networking opportunities for growing firms in the region and introduce attendees to new developments in the digital sector. DCI offers support for firms growing locally and uses fellowship scholarships in a bid to retain graduates in the area. These fellowships offer support to graduates of the university living in North East England to develop innovative ideas and start up a business; including £4,000 to cover living expenses.<sup>15</sup> Recipients are given access to specialised university equipment and mentoring support from industry experts. DCI also organises subsidised graduate and postgraduate industrial placements (often leading to job offers). These are offered with the aim of giving students industry experience, and firms the chance to apply graduate level skills to particular business issues. Such placements can lead to increased productivity (from access to new skills) and create strong links between businesses and the University.

Given the economic challenges Teesside faces, community and government support is viewed as being essential to the continuation of DCI. Government support comes in the form of funding, including from the European Regional Development Fund. Currently, this funding is vital to the success of DCI but some does come from the private sector and the University itself. The aim is to become sustainable, although it is acknowledged this will take time and is unlikely to be possible in the next five years.<sup>16</sup> This puts the long-term future of DCI at some risk, if stable funding cannot be guaranteed, businesses might lose confidence in the scheme. Formalising its financial arrangements should remain of paramount importance.

9 The University has won a number of awards including: Times Higher Education Awards for 2009 University of the Year and Best Employer Engagement; 2013 Entrepreneurial University of the Year runner-up.

10 Teesside University Employee Awarded for Helping Businesses to Succeed, NCUB, 2013. Available here <http://www.ncub.co.uk/news/teesside-university-employee-awarded-for-helping-businesses-to-succeed.html>.

11 Winning the Queen's Anniversary Prize 2013 for Growing digital business start-ups by graduates and creating entrepreneurship and opportunity in the local economy.

12 Centre for Cities (2014), Cities Factbook 2014 London: Centre for Cities.

13 NIESR (2012) Measuring the UK's digital economy.

14 The North East LEP Independent Economic Review, available at <http://www.thenorthernecho.co.uk/resources/files/28979>.

15 Applications invited for DigitalCity Fellowships. DCI. Available at <http://digitalcityinnovation.com/applications-invited-for-digitalcity-fellowship/>.

16 Centre for Cities interview.

## Providing a dedicated networking space outside the ‘university bubble’

**Lead organisation: Engine Shed**

**Location: Bristol, UK**

**Year: 2013 – to present**

**Keywords: University links; Business support; Innovation**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

Cities can have an active role in providing long term stable funding and build up the scale of established successes. The Engine Shed incubator space spun out from the successful SETSquared partnership of six universities across the South West of England.<sup>17</sup> It supports specified key knowledge intensive industries and is primarily funded through a long-term (15-year) loan from Bristol city council. The founders of Engine Shed chose to locate away from a University campus to be more ‘approachable’ to businesses whilst maintaining very close ties with the SETSquared universities.<sup>18</sup>

Engine Shed provides a dedicated networking space located outside of any single university. By locating in Bristol’s Temple Meads railway station, the business hub benefits from good transport links as well as a ‘neutral space’ for businesses and university researchers to build working relationships. It provides a dedicated networking space located outside of any single university. This gives it a more commercially oriented feel than ‘council initiatives’ tend to achieve and removes it from the ‘ivory tower’ image that businesses often associate with universities. This was in part due to a decision as to the design of the space and also the arm’s length nature of support.<sup>19</sup> Part of the attraction for businesses is that the incubator space is not located within a university campus.

Businesses visit the centre because it provides a desirable, useful space for meetings/events and is close to transport links. But as the design of Engine Shed encourages networking, individuals often make new contacts when there, innovating and adding value to their businesses. The initiative is regarded as being successful because it builds on an existing network of key players and focuses on establishing and sustaining relationships between those working in growing industries that have a comparative advantage in Bristol. The city ranked 8<sup>th</sup> out of 64 cities by knowledge jobs and 14<sup>th</sup> out of 64 cities for small and medium firms.<sup>20</sup>

Many of the most successful relationships happen when individuals from across sectors and industries are given the chance to meet, therefore cities should consider how to best engage different partners. Effective networks need to ensure they have a diverse set of users. In some cities, establishing a networking space outside of any particular university can help engage different partners. This can present the opportunity for more collaborations through providing a meeting place based in one particular university (which may only attract businesses looking to collaborate in areas that university is regarded to have strengths in).

17 University business incubators. Named best incubator outside of North America in the UBI Index. Available at <http://web.archive.org/web/20140629231208/http://ubiindex.com:80/rankings/>. SETSquared universities are: Bath, Bristol, Exeter, Southampton and Surrey.

18 Centre for Cities interviews.

19 Centre for Cities interviews.

20 Centre for Cities (2014), *Cities Outlook 2014* London: Centre for Cities.

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## Bringing networks within the campus

**Lead organisation: The University of Sheffield Enterprise (USE)**

**Location: Sheffield, UK**

**Year: 2012 to present**

**Keywords: University links; Business support; Innovation**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

Cities should consider the success and appeal of their networks, as success depends on the will and calibre of attendees. Some networks can capitalise on the brand of the university and by bringing representatives within the campus, break down perceived barriers to university collaboration. The University of Sheffield Enterprise (USE) follows this approach.

USE supports an environment where start-ups and high-growth firms in the city can make relationships with each other and university departments outside of what entrepreneurs were calling an “unappealing” networking scene.<sup>21</sup> USE wanted to create a forum where business people can meet within the university, breaking views of an ivory tower and encouraging collaboration. USE identified a disinterest in their networking evenings to the extent they were no longer attracting a range of businesses and therefore compromising their benefits. USE combines an offer more typical of incubator spaces (funding, workshops, business coaching and advice) with informal networking evenings and brunches aimed at engaging staff, students and graduates alongside businesses from outside of the university.<sup>22</sup> Alternatively, some networks can capitalise on the brand of the university and by bringing representatives within the campus break down perceived barriers to university collaboration.

## Attracting investment to the city

By encouraging big businesses to move into the city, and by reducing barriers in the supply chain, cities can foster university-business collaborations and make investments more attractive.

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## Capitalising on place specific relationships with major companies

**Lead organisations: Helsinki University and Nokia**

**Location: Helsinki, Finland**

**Keywords: University links; Business support; Innovation; International**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

Helsinki University capitalised on their place specific relationship with a major company (Nokia) to lever in investment for a new research lab. The investment shows Nokia’s close links to the city, and in investing in supply chains of local high-growth firms resulting in the benefits of a Regional Innovation Ecosystem.<sup>23</sup>

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<sup>21</sup> Centre for Cities Interviews.

<sup>22</sup> Centre for Cities Interviews.

<sup>23</sup> Tuija Hirvikoski, Presentation: Future Cities, The World Bank, Barcelona 2012 .

In an attempt to increase the diversification and scope of their research, Nokia worked with the city of Helsinki to invest in a research lab on the Otaniemi campus of Helsinki University of Technology. The company built on over a decade of research partnerships with the University of Helsinki to deliver this developmental research collaboration. There has also been a history of significant public funding for the firm and Research Centre from the Helsinki region as an investor.<sup>24</sup> This long-term association and deep relationship of place brings the University not only the benefits of up-front investment from a major firm but favourable links between research and business interests. The University's benefits stretch beyond the private funding and applied research opportunities to recruitment – as both research oriented staff and students were attracted by cutting edge technologies linked to a large company.<sup>25</sup>

However, in tying the funding and reputation of the university to a single firm there are risks. After its successes in earlier stage mobile phone technologies Nokia has struggled to compete in the smart phone market.<sup>26</sup> By tying reputation and research funding to Nokia, the University of Helsinki exposed itself to some risk to its funding and reputation. In the case of Helsinki, the city and Otaniemi campus made efforts to integrate other partners into the area (including Phillips InnovHub and Tieto) which has mitigated against some of the effects on applied research goals and threats to long-term funding. The area now has a significant comparative advantage in being a recognised regional innovation centre, reflected in the value of the Otaniemi campus (50 per cent of the Helsinki Stock Exchange turnover in 2011). However this brings further risks of a specialised economy, and the city must balance being reliant on a single industry and supporting a regional strength.

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### Using large 'anchor' firms

**Lead organisations: Warwick Manufacturing Group and the Advanced Manufacturing Research Centre**

**Location: Warwick and Sheffield, UK**

**Year: 2001 – to present**

**Keywords: University links; Business support; Innovation; SMEs**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

Cities can embed supply chain links for smaller firms and reduce the barriers to collaboration to ensure they benefit from links between large businesses and universities.

The Warwick Manufacturing Group (WMG) capitalises on the region's strength in the automobile industry through investment from automotive industry partners. The Advanced Manufacturing Research Centre (AMRC) in Sheffield is a long established partnership with the University of Sheffield (since 2001) which builds on historical local industry strengths with funding and research investment from industry partners.

Both the WMG (Jaguar Land Rover) and the AMRC (Boeing) use large 'anchor' firms to draw research investment into their city economies to work with local firms to embed supply chain innovation benefits. In

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<sup>24</sup> Through the Tekes innovation funding programme.

<sup>25</sup> Open Innovation at Otaniemi Nokia Research Centre, 2012. Available at <https://research.nokia.com/page/12409>.

<sup>26</sup> Financial Times (2012) Nokia: Struggling to regain investors' confidence. Available at <http://www.ft.com/cms/s/0/1a0a0b36-a404-11e1-84b1-00144feabdc0.html#axzz2zux2YRvn>.

both cases the large firms have provided significant upfront investment and improved research capabilities and smaller firms have benefited from the specialised labour in the area and established supply chains that have been created. WMG do this through their knowledge transfer services, which engage over 1,700 SMEs. Many of these are from the local area but the reach is global, this enables these small businesses not only to access the expertise of the WMG but also access a global network of suppliers. Similarly, the AMRC have small business members but also collaborate with non-member SMEs, including on over 300 projects in the Yorkshire and Humber region.

In both examples, the city is benefiting from universities' relationships with larger firms and breaking barriers to ensure that smaller high-growth firms are able to gain from supply chain orders and innovation.

## Supporting collaborations without getting the city involved

In some cases, cities do not need to directly intervene in collaborations, as high-growth firms link to universities without public funding or formal support.

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### Building on informal alumni networks

**Lead organisation: Y combinator**

**Location: Silicon Valley California, US**

**Year: 2005 – to present**

**Keywords: University links; Business support; Innovation; International**

**Read the full report here: [Delivering change: Supporting links between universities and high-growth firms in cities](#)**

Y combinator was founded in 2005 by Stanford alumni with private funding from alumnus Paul Graham, as a way to encourage students to start companies rather than take internships during holidays.

The incubator retains strong but informal links with Stanford professors and alumni. This includes regular guest lectures from Stanford professors as well as ad hoc sharing and learning about cutting edge technological developments between the organisations. Y combinator shows how some of the most successful incubators can operate without direct funding, but instead a supportive policy environment. As a profit generating growth accelerator, it is free from the bureaucracy that often comes with publicly funded grants or university investment.

172 companies have been through the incubator's three month programmes, with a capitalisation value of \$7.78 billion including high profile technology companies such as Dropbox, Airbnb and Scribd.

Although seed funding is comparatively low, businesses are attracted by the offer of accelerating their growth through networking and alumni relations. Cities with strong local economies should consider if their networks have the potential to be self-financing, and if they are, support businesses to gain access rather than fund a network itself. Much of the success in Silicon Valley's technology firms is attributed to businesses with strong links to Stanford, however these are often informal or issue based rather than due to any city or university interventions.

Many successful collaborations happen between alumni and professors through individual relationships. These may not need interventions but benefit from wider business support. Y combinator's entrepreneur community has an active and significant shared voice when considering local city level decisions that affect their businesses.<sup>27</sup> The growth-accelerator community engages both its entrepreneurs and professors on specific issues that they identify through informal networks (e.g. website message boards).

This has led to a single voice from 'y combinator firms' that has some local influence with local San Francisco policymakers. For many businesses, local government or even universities don't have a formal role, instead, supporting an environment of 'open innovation' helps growing businesses to benefit. Cities can also use successful private networks to highlight barriers to their business growth and use their resources to address these issues directly.

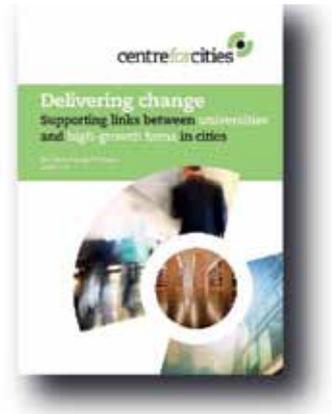
The lessons from here must be taken in context. Firstly Silicon Valley is something of a singular example of success, and attempts to simulate the conditions for it in other areas have often been expensive mistakes.<sup>28</sup> Secondly, whilst there hasn't been direct funding or interventions in the case of Y combinator, the incubator is both borne out of and benefits from the area's culture of open innovation, which has received indirect support and funding from both the city and the university. The city's role in this example is minimal but it can benefit from engaging with successful university-business networks. Cities don't always need to support networks through funding or direct interventions. Instead in industries or areas where there are already successful relationships, they should engage with these firms to identify barriers to further growth.

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<sup>27</sup> Y Combinator: <http://www.ycombinator.com/about/>.

<sup>28</sup> MIT technology review, 2013 Why Silicon Valley Can't be Copied. Available at <https://www.technologyreview.com/s/516506/silicon-valley-cant-be-copied/>.

## More information



The case studies in this document came from the report *'Delivering change: supporting links between universities and high-growth firms in cities'* published in 2014. Read it at: [www.centreforcities.org/publication/delivering-change-supporting-links-between-universities-and-high-growth-firms-in-cities/](http://www.centreforcities.org/publication/delivering-change-supporting-links-between-universities-and-high-growth-firms-in-cities/)

You can find more case studies on our website across key areas of economic growth policy such as housing, transport, business growth and innovation.

Go to our website at [www.centreforcities.org](http://www.centreforcities.org) for more.

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