BUILDING A DIGITAL CITY

Challenges, Opportunities, and Lessons from London
June 2014

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London Is Perceived as One of the World's Top Tech Hubs

Growth of the Technology-Information Sector Tripled from
2009 through 2013, Compared with the Previous Four-Year Period

Several Critical Conditions Enable Cities to Achieve Breakthrough Growth

On behalf of Bloomberg Philanthropies, The Boston Consulting Group (BCG) set out to understand the emergence of London's technology sector, the opportunities it creates for the city, and the obstacles that may limit the sector's future growth. BCG conducted interviews with more than 30 leading technology executives and other stakeholders in London. This document outlines the major themes that were highlighted in those interviews and explores possible avenues for future action to promote the continued development of the tech sector.

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Undeniable Benefits, Pressing Challenges

New technologies have fundamentally changed the industrial makeup of urban economies. There are now 382,000 workers in London's technology-information sector, an increase of 11 percent since 2009. In fact, the growth rate of the technology-information employment base in London more than tripled from 2009 through 2013, compared with the previous four-year period.[1]

On the basis of its research in London, BCG has determined that five conditions are necessary in order to create a solid foundation for a thriving tech sector:

A Strong Talent Pipeline. Talent makes up about 80 percent of the expense structure for start-ups and is a critical resource for enabling companies to achieve scale. The talent pipeline in any region flows from both local universities and external markets. Close to 70 percent of interviewees identified the talent pipeline, which includes experienced executives as well as engineers and programmers, as the single most important factor in the success of tech firms in any city.

A Vibrant Tech Community. A strong technology community creates a virtuous circle, driving the attraction, development, and retention of talent, which in turn further strengthens that community. A technology ecosystem must reach critical mass in order to yield significant benefits. Four distinct elements can make that happen:

- *Mentorship.* Technology mentorship consists of formal and informal channels. Formal channels include the mentoring programs of Barclays and Techstars, as well as mentorship offerings from techUK, Tesco, and Unilever. Meanwhile, angel investors, who assist with know-how in addition to providing capital, are examples of the informal channels.

- *Network.* A large, integrated network creates a strong sense of cultural identity. Girls in Tech London, for example, is a powerful network that connects women in the city's technology space. And Google Campus London, Here East, and Level39 offer office space, act as incubators, or do both, in addition to creating good informal network opportunities.

- *Magnet Companies.* Each of the top ten (by valuation) technology and Internet companies has an office in London. These companies provide credibility to the industry, a recruiting pool for existing start-ups, an opportunity to learn core technology-industry skills, and a fertile group of future entrepreneurs.

- *Visibility.* The creation of London & Partners to promote London to overseas businesses, students, and visitors—as well as the work of Tech City UK to expand the tech ecosystem in London—has clearly enhanced London's standing as a tech hub. The new London Technology Week has the potential to further enhance the visibility of many local companies and initiatives and to become a marquee event attracting tech leaders from around the globe.

Local Capital Throughout the Journey. Start-ups need funding and capital injections—angel and seed investments, series B and C funding, and growth capital—from the early start-up days through the rapid-growth phase. Just as valuable is the critical know-how and experience provided by venture capital firms. London, a large financial centre, has significant advantages in this area. Many successful venture-capital and early-stage investors, including Index Ventures, Balderton Capital, Amadeus Capital, and Seedcamp, were founded or are located in the city. There are well-known examples of successful seed funding leading to follow-on funding within London, as well as examples of venture capital investments made by firms within the city that led to large exits, including Asos, DeepMind, Onefinestay, SwiftKey, and Zoopla.

Robust and Flexible Infrastructure. Cities must develop the infrastructure required by technology firms at different maturity stages. High-speed broadband, for example, is perceived as an essential utility. Equally important, affordable office space must be available to young, cash-poor start-ups with flexibility to adapt that space quickly and easily as companies scale up from a handful of employees to 50 or 200 workers.

Coordinated City-Government Support. Coordination among, for example, tech companies, London government, and educational institutions is vital, not only for catalyzing organic growth but also for acting as an external marketing tool to create buzz. City leadership has moved to unite Londoners behind a common goal, including the creation of the Smart London Plan, which aims to harness technology and innovation to make the city a better place to live and work. Such efforts have been complemented by initiatives such as the Mayor's London Tech Ambassadors Group, created earlier this year, to better connect London government with the tech industry and enable coordination of programs for driving the sector's growth. Initiatives including the creation of the London Datastore, a program that allows entrepreneurs to create apps based on London's vast warehouse of data, have demonstrated the power of linking the public and private sectors.

Challenges Ahead

London's technology sector has prospered in recent years, but challenges still exist in several critical areas:

The Pool of Engineering Talent. A perceived talent gap in London is a major concern. Among the possible steps for addressing the problem: increased focus on STEM education in secondary schools and better alignment of tertiary education with the needs of industry. The addition of coding to the national curriculum later this year is another important step. In order to retain foreign university students and attract new talent from abroad, there should be reform in the immigration process.

Availability of Capital Throughout the Growth Journey. London has fewer notable venture-capital firms with an office in the city than San Francisco or New York City. A number of steps can be taken to address that shortcoming: for example, enlisting the Mayor's office, London Tech Ambassadors, and key executives from London technology giants to encourage U.S. venture-capital firms to open offices in London; increasing the maximum cap on investments for venture-capital trust funds; continuing to improve investment and tax benefits; and encouraging venture capital firms to share their knowledge and experience with budding entrepreneurs.

London's Infrastructure. This effort should include a focus on both commercial space and connectivity issues:

- *Flexibility of Commercial Space.* There is a shortage of office space in London. Moreover, the space that is available is perceived as expensive and requiring long lease agreements, arrangements that are not suitable for cash-poor, rapidly growing start-ups. Streamlining regulations for short-term leases and the establishment of special tenant rules or free commercial space for start-ups would help address the problem.

- *Access to High-Speed Broadband.* London, which does not have top-of-the-line fibre-optic connection across all boroughs, suffers from mobile dead spots. The city should benchmark its broadband against other cities with which it competes and launch an initiative to facilitate the development of public Wi-Fi and full-scale fibre rollout.

The Need to Strengthen the Focus on Creating a Common Goal, Coordinating Initiatives, and Enhancing the City's Profile. Coordination of efforts by the mayor could help drive the creation of an overall vision for London's technology industry and unite the community around a common goal. As Mayor Johnson's administration has demonstrated, leadership from the mayor's office can be an effective catalyst for progress. London government could expand its efforts by, for example, providing visible support to colleges, schools, and teachers as they push to improve education in critical areas such as science, technology, engineering, and mathematics, as well as coding. And the mayor might consider appointing a chief digital officer, a step that could not only lead in the transformation of city services through the use of innovative technologies but could also provide a new source of growth for the technology sector in London as a whole.

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About the Authors

Paul Zwillenberg is a partner and managing director in the London office of the Boston Consulting Group and the leader of the Technology, Media & Telecommunications practice area in Europe. Niki Aryana and Dominic Field are partners and managing directors in the firm's London office. Iva Gaberova and Christopher Sodergren are consultants in BCG's London office.

You may contact the authors by e-mail at:
zwillenberg.paul@bcg.com
aryana.niki@bcg.com
field.dominic@bcg.com

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1. *London: Digital City on the Rise,* Dr. Michael Mandel, Dr Jonathan Liebenau, June 2014, South Mountain Economics, Research underwritten by Bloomberg Philanthropies