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Economy Committee

A MAYORAL MANIFESTO FOR THE DIGITAL ECONOMY

Introduction

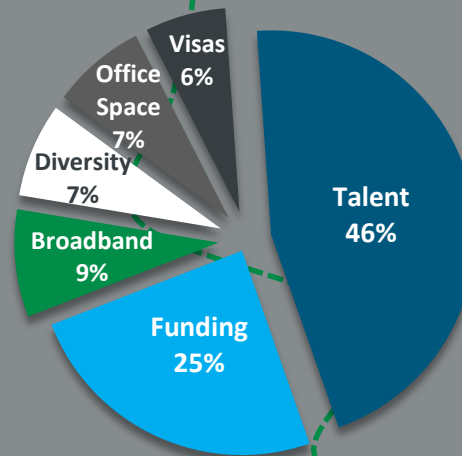
Fastest Growing Sector

The digital economy has grown from around 250 tech firms in 2010 at the launch of the Tech City initiative, to more than 5000 today.¹

Whilst those companies include the likes of internet giants Google, Cisco, Intel and Airbnb, 98% of the UK's digital businesses are SMEs.²

UK wide, jobs in digital companies are growing by 28%, year on year, with over 1 million vacancies advertised in 2014. Around 40% of those jobs were in London,² and over 250,000 people are currently employed in Inner London's digital sector.

Barriers to Digital Growth³



No Time To Rest

Promoting and developing London's world leading, fast growing, digital economy is a key priority for City Hall and the London Enterprise Panel.

The Mayor has a focus on promoting growth in tech: digital infrastructure features prominently in the London Infrastructure Plan 2050; and he has begun to take action to improve connectivity and access to broadband for SMEs in the capital.

However, the Mayor came late to tackling the issue of poor connectivity. And leading stakeholders in the sector have identified several ongoing issues, which require strategic attention, if London is to maintain sustainable growth in its digital economy.

It is also widely agreed that there is work to do, to guarantee that the growth of the tech sector brings maximum benefit to those Londoners living on its doorstep.

A Manifesto for Mayoral Candidates

In September, the London Assembly Economy Committee visited businesses in East London's Tech City, to explore these issues in more detail. This report sets out our findings, and suggests ways for a future Mayor to boost London's digital economy, and ensure the benefits reach all Londoners.

We have focussed on **three key barriers** to inclusive growth which the Mayor could do more to address:

- **Poor broadband connectivity for London businesses**
- **A lack of gender, and socio-economic, diversity in the digital labour market**
- **The significant shortage of skilled workers**

¹Rohan Silva (ES, 16 June 2015);

²Tech City – Tech Nation Report, January 2015

³Tech London Advocates Survey, 2015

Challenge One: Connectivity

Must Try Harder

The productivity of London's economy hinges upon fast, reliable access to broadband. Not only is the tech sector built upon near-instant downloads *and* uploads, but recent research indicates the value to the UK economy of businesses further developing their digital potential, could be up to £90 billion.¹

However, Ofcom reports that BT and Virgin have focussed fibre-optic network upgrades on residential lines.² And superfast coverage for SMEs (which make up 98% of London's tech sector³) lags behind average urban coverage, at 67% vs. 83%. It seems London's connectivity is far from equal to the task in hand.

Physical Infrastructure

- Much of the capital's critical 'last-mile' infrastructure is copper telephone wire. In the best case this runs from a cabinet close to a property, which is itself supplied by fibre (Fibre To The Cabinet - FTTC). But Inner London has an unusually high incidence of copper wire running over long distances directly from the exchange.
- Copper cable is capable of superfast download speeds (>24Mbps). However in reality the average speed is just 7Mbps² – the further the cable must run (see above), the slower the speed.
- Copper Cable is *not* capable of superfast upload speeds – only downloads. It is therefore known as 'asymmetric' and is unsuitable for many important business functions.
- There is limited business incentive for Broadband providers to offer better infrastructure over the 'last-mile,' given the high costs involved.
- Privately upgrading to a dedicated leased-line, which provides fast, symmetrical connections directly to the property (Fibre To The Premise - FTTP), is often prohibitively expensive for SMEs.

Committee Members heard...

"Broadband installation takes up to 3 x longer in London than other UK cities"

"Some businesses have had a 12 month wait for fibre-optic installation"

"TfL are a part of the issue – preventing essential works taking place"

"This affects all businesses with digital capabilities, not just Tech City."



Bureaucratic hurdles

- Where companies can afford to upgrade to fibre, planning red-tape, and poor cross-borough standardisation, create administrative burdens for providers, increasing delivery times.
- Poor tactical coordination between providers, local authorities, and key property owners such as TfL, too often results in further long delays to installation of infrastructure.
- Complex wayleave arrangements (legal agreements governing access to and from properties for the installation of infrastructure) delay access into shared or leased properties.
- Even in new build properties, there is no obligation for developers to consider broadband infrastructure.

Challenge One: Connectivity

What has been done?

- The Mayor facilitated the Super Connected Cities voucher scheme, offering up to £3000 toward the costs of upgrading to ultrafast business broadband. The central government run scheme was funded via a grant funding agreement with Broadband Delivery UK (BDUK) and £25million was allocated to London.

Despite £25million being a relatively low amount (enough to provide the full £3000 to fewer than 8,500 businesses¹), due to poor early awareness building, and so slow initial uptake, it was not spent. It was instead pooled into a central pot of £40million available to 50 cities nationwide. This enabled additional London businesses to be reached, however arguably more could have been done to ring-fence the Capital's initial allocation. In total, just 12,500, fewer than 1.4%, of London's SMEs were reached.²

Applications to the scheme have now closed, and no replacement scheme has been announced. Furthermore, questions have recently been raised, by the GLA audit process, regarding the procedure for granting vouchers.

- The Mayor has invested in a connectivity ratings scheme, to enable tenants and property brokers to identify commercial spaces which meet their connectivity needs. This is intended to encourage developers to provide better broadband infrastructure. However there is no planning requirement for such infrastructure to be provided, even in new buildings.

- The Mayor has created a connectivity map by which providers can demonstrate the availability of super and ultrafast broadband. In return, businesses are able to register geographical demand for superfast connectivity.

- Central London Forward, (which represents several London Boroughs) has commissioned the British Standards Institute (BSI) to produce a standardised wayleave to be used by landlords in London, simplifying the process for access to premises for the installation of broadband infrastructure.

Recommendations:

1. The Mayor should ensure clear guidance is made available, to help businesses establish their connectivity needs, and set out the full range of options available to help address them.

2. The Mayor could endorse a redefinition of the 'Superfast' target, to recognise that many SMEs, particularly in the tech sector, require superfast to apply to both their download and upload speeds (i.e. to be symmetrical). Achieving 95% asymmetric superfast speeds is not enough.

3. The London plan should include a clear commitment to promote strategic investment in connectivity infrastructure. This should reflect the new ambition to achieve symmetrical superfast speeds.

4. The connectivity vouchers scheme represented a series of missed opportunities for the Mayor and City Hall. Future schemes to enable SMEs in London to improve their connectivity must be more ambitious in scale. And, to ensure their success, they must be easier to understand, better explained, and marketed earlier.

5. The Mayor should highlight the need for wider availability of high-speed broadband infrastructure, including FTTP, fixed wireless infrastructure and other innovative technologies, which are needed to achieve the ultrafast 100Mbps download **and** upload speeds worthy of a leading digital economy.

6. The Mayor, and GLA, should continue to support Central London Forward in designing and delivering the new standardised wayleave, ensuring its existence is widely known and understood, by both landlords, and their business tenants.

7. The Mayor should lobby government to introduce, as a condition of planning consent for new developments, a requirement to have installed 'super-fast' connectivity infrastructure.



Challenge Two: Diversity

A Homogenous Sector?

It is widely accepted that ideas and innovation flourish better in a more diverse talent pool. However, recent reporting found that the majority of the UK's startups (80%) are founded by children of middle class families.¹ Added to which, Tech City is heavily biased towards white, male, employees.

Yet all children now grow up as active consumers of technology with considerable potential to turn their skills into a career. And London's tech sector is centred in one of the capital's most diverse areas, both socio-economically, and ethnically.

Additionally, equal employment opportunities for women are front and centre of the current government's economic agenda. So why are digital employers lagging so badly behind, and what can be done about it?



Reaching Young Londoners

Bridging the gap between the digital community, and young people living in Hackney, Tower Hamlets and surrounding areas, is a challenge with which the tech sector has so far struggled. Social enterprises, like [Code Club](#), have taken the lead, running after-school coding and technology sessions for children.

However the sector has yet to find a satisfactory means by which to connect this activity to formal school careers offerings. Local young people are unaware of the job opportunities available on their doorsteps. Or of the doors, which good results in Science Technology, and Maths (STEM) subjects, can open.

Recommendations:

8. As part of the LEP's London Ambitions Careers framework, more emphasis must be placed upon tech businesses engaging directly with schools in their local areas, to bring local opportunities to life (see recommendation 16).
9. Additionally, tech apprenticeships and digital skills provision must be designed to enable the most disadvantaged young Londoners to benefit from the best training available. (See apprenticeships under 'Challenge 3 – Skills.')

Gender Imbalance

Less than 20% of the current ICT workforce of the UK is female.² Given the overall talent crisis in the sector, this is a huge missed opportunity. And a lack of diversity is undermining the competitive position of London's digital economy.

Social enterprises like [Code First:Girls](#) and [Stemettes](#), are working to reverse the trend by raising the awareness of girls and young women of opportunities available with the sector. But the divide originates in the under-representation of girls in STEM subjects, at GCSE and above. Leading women in tech have called for an end to the false binary between science and the arts at school. Recent research shows that 60% of 12 year old girls think STEM subjects are too hard, reducing the likelihood that they will choose them at GCSE.³

Recommendations:

10. The Mayor could further champion the role of women, such as his new tech ambassador, Sarah Wood, in the digital economy.
11. The Mayor could endorse and promote the newly launched, industry-led, [Tech Talent Charter](#) which aims to increase gender diversity in tech. In particular he could support the goal for industry leaders to monitor and publish data on their diversity record.



Challenge Three: Skills

Challenge 3
Skills

Mind the Gap

“London is facing a technology skills shortage, preventing Londoners gaining maximum benefit from the capital’s digital economy.” London Enterprise Panel¹

Most agree that a certain level of skills shortage may be expected for a young, fast-growing sector. But the technology skills gap is widely held to pose one of the most significant risks for tech growth in the capital. The UK’s economy will need 745,000 additional digital skilled workers in the next two years including programmers and developers, as well as those skilled in marketing, cyber security, product management and more.²

At the same time, there are high levels of youth unemployment in East London, where many of the capital’s tech firms are based. It seems those young people are not being given the skills to benefit from opportunities in the tech sector. And a focus on importing talent from abroad, instead of nurturing skills among those closer to home, may have allowed the problem to solidify.



“We have 5 years to fix the tech skills gap before businesses begin to leave London for Europe.”

What is Being Done?

The formal education system is rapidly embracing digital skills. From September 2014, the ICT curriculum was updated with a focus on digital literacy, teaching children as young as 5 to code. And the Mayor’s London Schools Excellence funding is being channelled into increasing the uptake of computer science in 450 London schools. However computing is still, far too often, being taught by non-specialist staff, and lacks innovation and careful integration into the curriculum.

Beyond the classroom, more innovative solutions are a part of the mix. Code clubs for kids and “hack-a-thons” have been established to promote technology to children. And companies, such as [Technology Will Save Us](#), have created coding kits, to teach children the basics of computer programming in an informal way.

For school-leavers and adults, digital learning opportunities are springing up all over the city. Many choose fast-track courses with private organisations such as [Makers Academy](#), and [General Assembly](#), as a launch-pad to a new career. However, fees of up to £8,000 for a 12 week course, mean many Londoners cannot afford to access these well-regarded courses, or benefit from their high employment outcomes.

Digital Skills for All?

In an attempt to democratise access to digital learning, technology apprenticeships are growing, with schemes such as Tech City Stars, and [Tech Up Nation](#), supported by the Mayor’s Fund for London.

However, in our [‘Trained in London’](#) report, we found that London’s tech sector had less than 0.4 apprenticeships per 100 employees, making it the second lowest performing sector in the capital.

The House of Lords Select Committee on Digital Skills found, in February 2015, that the number of digital technology apprenticeships, particularly higher-level apprenticeships, was far below what the economy needed. In 2013/14 less than 3% of the total number of apprenticeship starts were in ICT.

As a result, not only is the sector missing out on much-needed talent, but Londoners without £8,000 to spend are struggling to access the full range of job opportunities available to them.

Challenge Three: Skills

What are the Key Challenges?

- Despite the Mayor's 'Smart London Plan' setting an ambition to double apprenticeships between 2013 and 2016, digital apprenticeship starts in London have shown no growth in the period. They average just 1,300 per annum and most are offered at NVQ Levels 1&2, despite demand for apprentices trained to Levels 3&4.
- Training providers need to be more responsive to business requirements. Further education establishments are producing graduates with theoretical, often outdated, skills. Whereas private sector learning providers, with courses better tailored to industry needs, cannot supply talent at the rate required. Plus their fees, of up to £8,000 per course, exclude many Londoners.
- There is insufficient current data on the demand for tech skills. This limits the ability of both private and public skills providers, to fully respond to business need.
- Most businesses in need of talent are SMEs. Despite a desire to be socially responsible, SMEs offer few apprenticeships, due to cost, and the perceived burden of staff who are not yet appropriately skilled. Plus, they struggle to influence curriculum content, and thus are less likely to consider apprenticeships fit for their needs.
- Existing free digital skills activities for young people are small scale, disparate and under-funded. They are not often well linked to schools, job centres, or third sector skills providers, and so cannot guarantee all young people are reached.
- Careers advice is insufficiently specialised to enable young people to fully understand the opportunities which are most appropriate for them. Careers outreach programmes, run by tech companies, to inspire young people to strive towards tech careers, are limited to date.

These findings are echoed by Centre for London in their 'This is for everyone' report, which highlights how opportunities in the tech sector could be made available to all.

They have explored various ways to democratise digital skills, including building a website, [wearedotdotdot](#), as a means to communicate the opportunities available.

However they admit that restrictions, posed by policy constraints, structural issues within the tech sector, and the current lack of integration with the further education sector, mean initiatives require assistance from the Mayor, and others, to ensure success.



A Digital Skills Case Study

Provider: Makers' Academy

Offering: 12 week, fully immersive, developer course.

Cost: £8,000 for 12 week course.

Outcome: 85% employment within 3 months.

Funding : Private finance. Limits intake to 'those who have.'

Equality: Makers' have developed a fellowship scheme, (with Centre for London) for one person to attend each of their standard 12 week courses. Student are fully funded for the duration of the course. They repay the grant on entering employment.

Challenges: The fellowship is not eligible for apprenticeship funding or student loans. Among the reasons for lack of eligibility are absence of formal qualification outcomes, short course length, lack of workplace experience, and absence of soft-skills training.



Challenge Three: Skills

Challenge 3
Skills

Recommendations:

12. With increased devolution of skills funding the Mayor, and LEP, should work together with digital skills providers, and further education establishments, to re-design an apprenticeship which is fit for the purposes of the digital sector (See box).

13. In the meantime, as well as supporting existing apprenticeship schemes, the Mayor and the LEP should carefully target the £5m Digital Talent Programme to enable a range of providers to benefit. Making funds available to providers offering courses other than conventional apprenticeships, would ensure those most in need could access the very best training available in London.

14. The Mayor, and GLA, should gather and maintain real-time data on the sectoral demand for tech skills, to ensure skills providers are designing training appropriate to the needs of businesses.

15. The Mayor, LEP and GLA, could ensure that SME interests are represented in high level decisions as part of the Digital Talent Programme. They could support SMEs to collaborate on building a sustainable, shared apprenticeship programme from which they would gain value, without disproportionate resource burden.

16. The Mayor, London Councils, and the LEP could use the tech sector to pilot The London Ambitions Careers Offer, bringing together digital business leaders, local authorities and schools, to build better, universal, careers provision at a local level (see recommendation 8).

17. To underpin this, and avoid the array of digital skills offerings becoming confusing for young Londoners, the Mayor should use the [Tech.London](#) website to provide a clear, well explained, source of information and advice on the range of pathways to a digital career, and the financial help available.

What should a best practice digital apprenticeship look like?

It should be:

- **Industry led** to ensure relevance;
- **Informed by** better, localised, **data** collection on the needs of the sector;
- **Agile**, and over as short a timeframe as possible, to ensure content, and cohorts, keep pace with changes in the industry;
- At a skill level high enough to meet the needs of the sector and produce better employability outcomes i.e. **equivalent to NVQ level 3 or 4.**
- **Integrated technical and workplace skills** to guarantee employability of graduates;
- **Centrally coordinated** to ensure SMEs are able to participate, in both curriculum development and hiring;
- **Better promoted** in schools, with hands-on input from businesses, to ensure all young people recognise their value and the opportunities they offer.
- Accreditation should be offered based upon **employment outcomes** not an examined qualification, enabling private digital skills providers and further education establishments both to compete on a level playing field, and to clearly demonstrate the value of their provision, to businesses and applicants.



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About The Report

About the report

This is a summary of the findings from the Economy Committee's visit to Tech City in September 2015. The Committee met with individuals from several organisations to discuss issues threatening the growth of the tech sector, particularly relating to digital skills and connectivity:

- **Russ Shaw** CEO, Tech London Advocates
- **Ruben Kostucki** COO, Makers Academy
- **Sarah Wood** CEO, Unruly Media
- **Bethany Koby** Founder, Technology Will Save Us
- **Anthony Impey** CEO, Optimity
- **Jessica Tyrrell** Centre For London

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Aims:

- To investigate how the tech sector is rising to the challenges of connectivity and a shortage of digital talent.
- To observe how the tech sector is working to ensure Londoners, especially the less advantaged, are given the skills to benefit from opportunities in the sector.
- To determine the impact of the Mayor, LEP and others' interventions to support improvement of broadband provision, and technology skills training for Londoners.
- To agree priorities for Mayoral candidates' attention, to ensure London's Digital Economy continues to grow, and that its growth delivers maximum benefit to Londoners.

Economy Committee:

The London Assembly Economy Committee scrutinises the work of the Mayor, and investigates issues of concern to Londoners in the areas of economic development, wealth creation, culture and sport. Its members are:

- **Fiona Twycross AM (Chair)**
- **Stephen Knight AM (Deputy Chair)**
- **Baroness Jenny Jones AM**
- **Tony Arbour AM**
- **Onkar Sahota AM**
- **Murad Qureshi AM**
- **Kit Malthouse AM MP**

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