

Seizing the opportunities of the digital age

ENTERPRISE M3 DIGITAL TECHNOLOGIES REPORT - NOVEMBER 2015

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Executive Summary

- i. The Enterprise M3 LEP recognises the importance of the digital economy in driving innovation, productivity and competitiveness. Together with its partners, it is eager to support initiatives which help local businesses seize digital growth opportunities and remove barriers to competitiveness in this vital area of the economy.

The Importance Of The Digital Economy

- ii. Digital businesses around the world are driving a technological and economic revolution, which is transforming the way in which we live, work and play. The UK is currently one of the world's leading digital economies, recognised for its superior infrastructure environment and public and private sector digital service delivery.
- iii. Digital technology businesses are critical to the growth and success of the UK economy. They contributed over £105bn GVA in 2011 and accounted for 15% of all new companies formed in 2013/14. At the heart of this growth are the UK's digital technology clusters which are home to major multinationals dispersed between large numbers of small and medium digital businesses. London and the South East stand out as home to some of the most concentrated digital clusters in the UK, with the 10 largest agglomerations all within close proximity of the M4, M3 or M25 motorways¹.

The Enterprise M3 Area's Digital Technology Sector

- iv. The Enterprise M3 area consistently ranks as one of the UK's leading digital economies across a range of indicators. Together with Thames Valley Berkshire and London, it forms part of a wider South East digital cluster.
- v. The Enterprise M3's Sci:Tech Corridor is an asset of national importance and is home to thousands of innovative, high-tech companies. World-leading multinationals including Siemens, Ericsson, IBM, BAE Systems, Lockheed Martin and Thales E-Security are spread among more than 8,000 digital technology businesses, 92% of which employ fewer than 10 staff. It is this large network of micro, innovation-led, digital companies which give the Enterprise M3 area its comparative advantage in the digital economy.
- vi. The abundance of knowledge assets and expertise in the Enterprise M3 area have spawned a vast innovation ecosystem which has helped local businesses remain competitive and attract growth investment. Enterprise M3's four universities together with Southampton, Portsmouth and Reading, undertake world-class research in a range disciplines which support the digital economy. These are complemented by research institutions including Farnborough Aerospace Centre, Surrey Satellite Technology Centre, the University of Surrey Space Centre and the 5G Innovation Centre.

Enterprise M3 Digital Economy

- **8,500** Digital Businesses
 - **50,270** Employed
 - **1.8** Location Quotient vs. UK
 - **92% < 10** employees
 - **7.4%** of all Enterprise M3 jobs
 - **£4.17bn GVA** in 2014
 - **£105,460 GVA/worker** vs. national average of £83,000
-

¹ KPMG, Tech Monitor UK

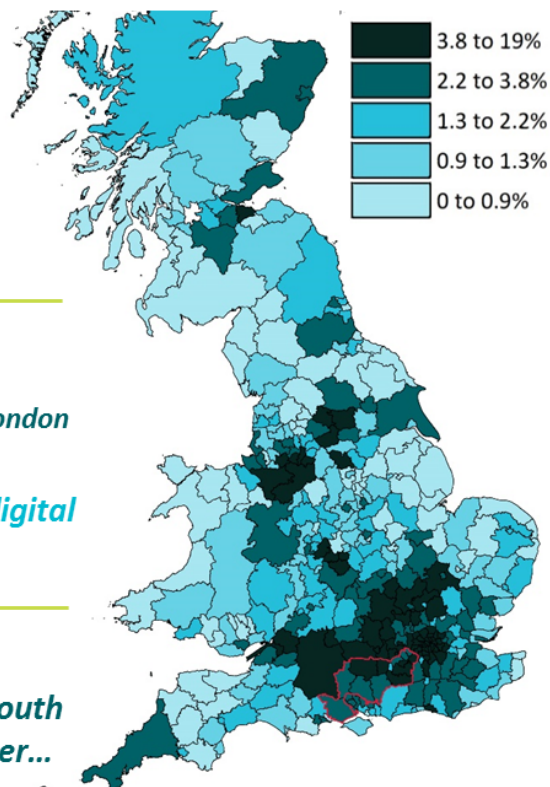
Digital Technology Businesses

...driving a digital revolution

UK is one of the world's **leading digital economies**

At the heart of growth are the UK's **Digital Technology Clusters**

% of Business Base in Digital Sector



UK Digital Tech Firms generated

£105bn

Economic Output
(2011)

15% of new companies formed
(2013/14)

Enterprise M3, Thames Valley Berkshire and London make up over **40%** of UK digital Employment

A wider South East Cluster...

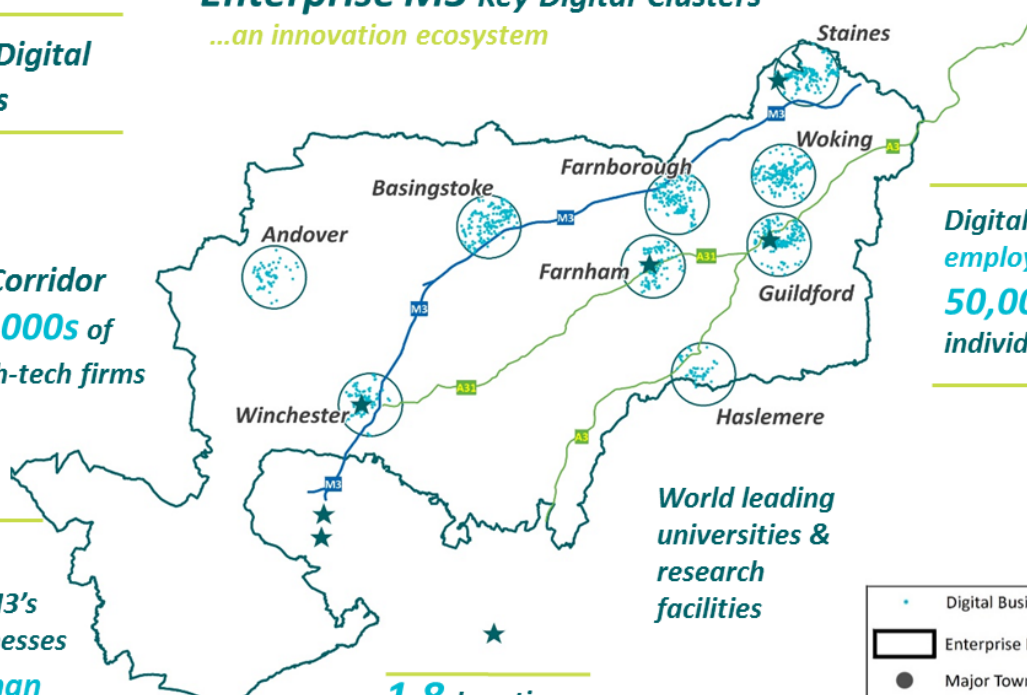
Enterprise M3 Key Digital Clusters

...an innovation ecosystem

11,700 Digital Businesses

Sci:Tech Corridor supports **1000s** of **micro** high-tech firms

92% of Enterprise M3's Digital Businesses have **less than 10 employees**



Digital sector employs **50,000** individuals

World leading universities & research facilities

1.8 Location Quotient vs. UK

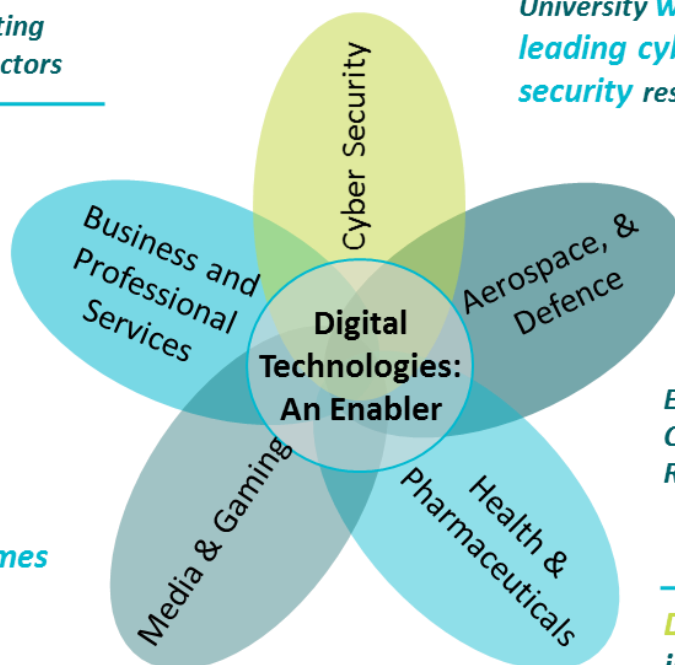
Digital Technology Businesses

...driving a digital revolution

Digital Technologies: an enabling sector supporting innovation in other key sectors

14,000 professional services businesses including Allianz, AXA & WS Atkins

World leading games companies including Electronic Arts, Ubisoft, Media Molecule & Lionhead Studios



Royal Holloway University world leading **cyber security** research

Farnborough Aerospace centre and consortium

Eli Lilly Research Centre & Roke Manor Research

5G Innovation Centre

Digital technologies: an intersection between all sectors as whole economy becomes digitised

BUT: is Enterprise M3, the South East and the UK in danger of falling behind?

1 of 3 leading digital economies in the UK, Enterprise M3 needs to co-ordinate investment in **infrastructure and skills** to remain competitive

UK is **beginning to lag behind** in providing resources for **science and skills training**.

South Korea to invest **\$1.5bn** to build 5G network by 2020

Dresden opened 5G Lab with extensive network of partners including **Vodafone, Nokia and Ericsson**

BUT: are businesses fully exploiting their digital opportunities?

Superfast broadband availability greater than UK average, although **Surrey outperforms Hampshire**

Superfast broadband **take-up is low**

23% of SMEs still don't possess **basic digital skills**

Growth opportunity worth **£4bn/year** if the public & private fully exploit their digital opportunities

International Competitor Landscape

- vii. Although the digital economy is thriving, there are no grounds for complacency. The Enterprise M3 area together with the wider South East cluster is under constant threat from international competition. The UK is beginning to lag behind other countries including Switzerland, Singapore, the USA, Germany and Hong Kong, in its training for science and digital skills. Significant government investments are being made in the next generation of digital infrastructure across the globe and the UK must continue to invest to ensure individuals, businesses and research institutions are able to fully embrace the opportunities of the digital economy.

Digital Technologies As An Enabler To Growth

- viii. Digital technologies are a vital growth enabler which have huge scope to impact on other sectors in the economy. The competitiveness of sectors such as digital media, telecoms, pharmaceuticals, aerospace and defence, and business and professional services can all be advanced through investment in, and exploitation of, digital technologies. Niche sectors including satellite technologies, 5G mobile communications, cyber security, advanced materials & nano-technology, photonics, advanced aerospace, animal health and computer games technology have also been identified as key specialisms in the Enterprise M3 area, many of which are fully intertwined with the digital economy and key digital innovators.

Wider Digital Take Up

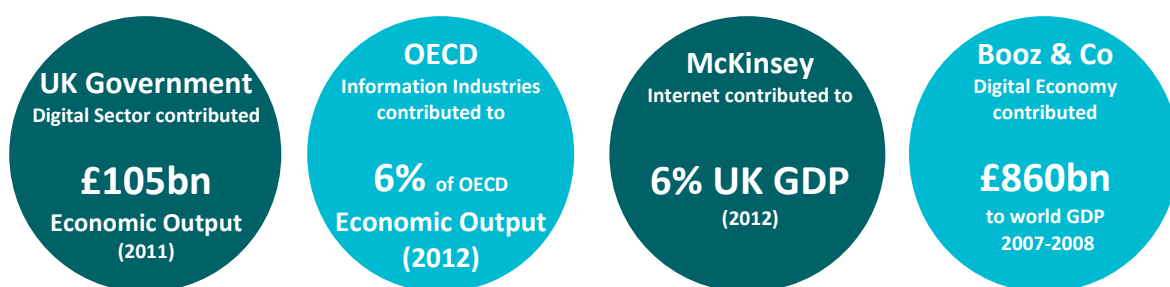
- ix. The Enterprise M3 area's next generation digital infrastructure is more widely available than in competitor UK locations. The fastest broadband speeds can be found around the key growth towns, step-up towns and research parks. Nevertheless, the pressure to invest in more widely available and faster connectivity continues. Despite superfast broadband being broadly available in the Enterprise M3 area (95% in Surrey and 87% in Hampshire), take-up of superfast broadband is relatively low and has much scope for growth across both Hampshire and Surrey.
- x. The Enterprise M3 LEP and partners need to work together with local businesses to ensure that all sectors are fully aware of the benefits new technologies can bring. With 23% of SMEs still lacking basic digital skills, business owners need to be better informed on how to use digital infrastructure and processes to maximise their competitive advantage. Without the skills to utilise digital technologies, take-up will remain low and businesses will increasingly struggle to remain competitive.
- xi. It is estimated that there is an additional growth opportunity worth £4bn per year to the UK economy if the public and private sector take action to take full advantage of the digital opportunity. As one of the leading digital economies within the UK and with world leading expertise in 5G communications, the Enterprise M3 LEP and its partners have a vital role to play in encouraging and enabling investment in infrastructure, digital skills and research.

1. The Importance Of The Digital Economy....A Global Perspective

The UK is ranked 8th overall in digital readiness behind Singapore, Sweden, Finland, Netherlands, Norway, Switzerland and the USA. It is imperative to the continued growth and development of the UK's digital economy that the UK does not fall behind its global competitors.

As one of the leading digital economies within the UK, the Enterprise M3 area and the wider South East cluster have a vital role in directing and co-ordinating investment in infrastructure and skills assets to ensure we do not miss the opportunities that the digital economy represents.

- 1.1 A number of comparative studies have identified the digital economy as a key engine of growth, in terms of creating new jobs, increasing productivity and cultivating an economy that thrives on innovation.
- 1.2 Government organisations and expert consultancies have all tried to place a value on the digital economy, some examples of which are outlined below.



- 1.3 The huge values placed on the economic contribution of the digital economy demonstrate the significant economic opportunities that it presents at both a national and global level.
- 1.4 The UK is currently one of the leading global digital economies, ranked 7th in the World Economic Forum's (WEF) Global Competitiveness Index for 2015–16.
- 1.5 The UK's infrastructure environment and public and private sector digital services have consistently been ranked some of the best in world across a range of digital indices, including the WEF's Networked readiness index.
- 1.6 Wider international comparisons show that the UK is beginning to lag behind in providing resources for science and skills training. The countries ranked higher than the UK (including Switzerland, Singapore, the USA, Finland, Germany, Japan, Hong Kong and the Netherlands) have invested heavily in digital foundations, including up-skilling the population in technical expertise and delivering widespread access and usage.

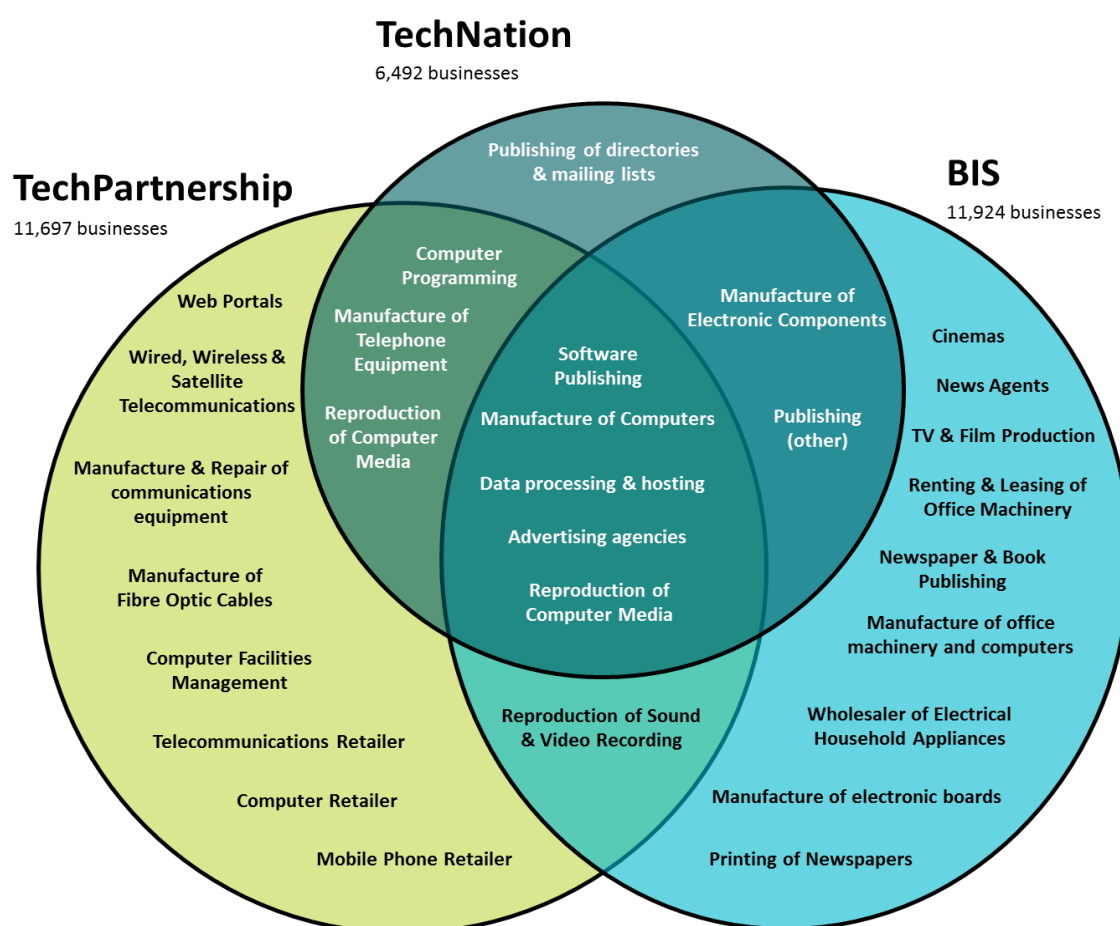
Booz & Company estimated that if the UK had ranked 1st across all categories constituting its digital index in 2011, it could have increased GDP by up to a further £63 billion²

² UK ranked 12th on the Booz & Company Digitization Index in 2012, which measures digital foundations: affordable, fast and robust broadband network of infrastructure, public- and private-sector digital services, and residents with a high level of education.

Defining The Digital Economy

- 1.7 A range of different data sources and definitions is needed to capture the full spectrum of the digital economy. The sector is ever evolving and the type of businesses which fall inside its scope continues to be fluid.
- 1.8 Whilst there is broad agreement on what constitutes the core functions of the sector, there is still much debate over how to classify those companies that are adopting digital technologies to support their primary business processes. Architects, financial services and publishing firms are all examples of businesses that fall into this new category of 'peripheral' digital firms.
- 1.9 The most commonly used definitions of the digital sector include TechPartnership, TechNation and BIS. The diagram below shows the significant overlaps between the sector definitions and also the variations between them.
- 1.10 A detailed explanation of the methodologies we have employed in analysing the Enterprise M3 area's digital economy can be found in annex A of this report.

Figure 1.1 Overlaps and variations between sector definitions



Source: Regeneris Consulting Definitions: TechPartnership, TechNation, BIS