


**High Tech**  
West of England Local Sector  
Skills Statement 2019



Working together to develop the current and future skills of the sector.



The Local Sector Skills Statements provide up-to-date market intelligence from industry sectors; celebrating the notable achievements and expertise of businesses and education in the region compared to regional and national policy and research.

They provide insights into: the skills challenges faced by businesses in 2018/19, possible solutions, and potential partnerships for stakeholders to collaborate in the region.

The reports inform key priorities for: investment in training, education, careers advice and professional development in the West of England.



Produced and written by Business West

Business West is working in partnership with the West of England Combined Authority, West of England LEP and the region's universities and colleges through the Western Training Provider Network. The intelligence gathered feeds into the West of England skills strategy.



# High Tech

## Local Sector Skills Statement 2019

The West of England continues to maintain its reputation as one of the top technology hubs in the UK. Tech Nation, the UK government backed organisation, revealed in a 2018 report that the average turnover per worker in Bristol and Bath technology companies (£320,000) is greater than both Reading (£234,000) and London (£201,000), making it the most productive technology region in the UK. <sup>(1)</sup>

The West of England sub-region is a well-established technology hub with a long history of achievement in the aerospace, micro-electronics and engineering sectors. Regionally there is specific expertise in the areas of: software engineering, web and mobile development, system design and integration, robotics and artificial intelligence, silicon design and embedded software. The region now has the second highest concentration of tech businesses at 4.35 times the national average, only behind Reading, which at 7.26 times the national average, is the highest concentration in the UK. <sup>(2)</sup>

In 2018, once again, Tech Nation crowned Bristol the UK's #1 digital tech productivity powerhouse at £320k turnover per worker. With digital turnover in Bristol and Bath the third highest nationally at £7.9bn with the cluster also third highest nationally (£2.9bn) for the gross value added the sector brings to the region. This is behind London (£36bn) and Reading (£7bn). <sup>(3)</sup> The growth and emergence of a number of high quality incubators, accelerators, spaces and programmes has supported significant growth within the sector and helped increase the rates of growth and sustainability of businesses. The West of England Combined Authority's new digital ambition for the region will be core to the local industrial strategy, with the ambition to become the leading smart region in the UK.

The recruitment of talent and wider technology skills shortages is the biggest issue facing technology companies both nationally and regionally. Over 50% of technology companies, according to the Business West Skills and Training Survey 2018, have highlighted skills shortages that are holding their business growth back, with 28% viewing the lack of skills available as being a major issue. <sup>(4)</sup>

With the concentration of High Tech businesses in the West of England being at the top end, the figure of companies claiming a technology skills shortage rises to 70%. <sup>(1)</sup> There are regional initiatives in place such as 'Bristol Calling' which aims to encourage talent from elsewhere in the country to relocate to the West of England region and is supported by several large regional employers. <sup>(5)</sup> However, a more sustainable local 'home grown' approach is required to ensure a diverse, strong and stable talent pipeline.

One potential effect seen both nationally and locally is that STEM (Science Technology Engineering and Maths) based occupations outside of the high-tech industry are growing at a faster rate (1.2%). <sup>(6)</sup> Many of these roles (often in financial and health services) are also operating at higher skills levels in areas such as data analytics, cloud computing and architecture plus AI, which places an additional talent pipeline pressure on regional high-tech businesses; as these companies may be larger and able to draw a recruitment advantage through paying higher salaries. The Business West Skills and Training Survey 2018 stated that 50% of employers are having to raise salaries as a recruitment strategy, which many smaller businesses anecdotally state is putting pressure on their finances and their ability to grow. <sup>(4)</sup>

Whilst coding skilled talent is becoming more available, it is apparent in conversation with businesses that it is more challenging to find true software engineering skills which are mathematics led. This is especially true of talent that is at the second job stage (for example in junior to mid developer roles) of 2-3 years of experience. There appears not as many issues finding new graduates or very experienced programmers, and skills such as: C/C++/Java are valued and harder to find than the

web based technologies such as: Javascript/Ruby/ Python/PHP. Although Ruby developers are always in demand. <sup>(7)</sup>

The impact on businesses of these skills shortages is clear, with 71% of high tech businesses reporting that this is leading to increased workloads for existing staff and other important factors leading to disruption. <sup>(4)</sup>

In terms of the hardware and electronics industry, the UK is the sixth largest in the world with an estimated annual turnover of £98bn <sup>(8)</sup>; with 14 of the top 20 semiconductor manufacturers having design and manufacturing resource in the UK. The electronics industry is well rewarded with an average annual salary in the West of England of £44.5k <sup>(9)</sup>, and with the greatest likelihood that electronic specialists will have entered the profession via an undergraduate degree. Of all the engineering disciplines, electronic engineers are least likely to have qualified via the apprenticeship route (28%) compared with aerospace at the top (46%). 52% of electronic engineers entered the profession having a degree award. <sup>(8)</sup>

“The globally recognised strength in tech within the region continues to drive a tight labour market for highly skilled engineers and entrepreneurs in all disciplines. Collaborative initiatives like the do{cyber;} experience day for over 200 Year 8 and 9 students are helping to ensure the next generation are aware of the significant opportunities within high tech. The National Institute of Coding at the University of Bath is an innovative approach to blended learning for talented individuals looking at digital careers.”

Dr John Bradford, CEO – High Tech Bristol and Bath

# Key Facts

A summary of key facts both locally and nationally in this sector

There has been a **23% growth** in the number of high tech businesses in the West of England region between 2011–2015. This has led to an **89% increase in digital business financial turnover.** <sup>(1)</sup>



**70%** of high tech businesses in the West of England region **suffer from a lack of skilled workers** compared with 55% nationally. <sup>(1)</sup>



**66%** of employers in the electronics sector are **currently recruiting** engineering and technology staff. **55% say a lack of available candidates**

is a problem when recruiting graduates. <sup>(8)</sup>



Technical skills required:

**Python, JavaScript, cloud architecture, data engineering; Back-end and front-end developers; Cyber; Mobile Developers; QA/Testing (at Mid/Senior); Mid-Level developers of all languages; UX; Dev ops; Cloud focused expertise.**



**51%** of high tech businesses rely on in-house training to develop staff skills compared with **34%** engaging with universities or colleges for delivery. **32%** use paid-for online training. <sup>(4)</sup>



The **top five most in-demand core skills** <sup>(4)</sup> for high tech employers are:

- 1 Communication (Aptitude & Attitude) **(82%)**
- 2 Problem solving **(80%)**
- 3 Numeracy and analytical skills **(65%)**
- 4 Team working **(62%)**
- 5 Technical skills **(54%)**

It was also noted that leadership and emotional intelligence were often key core skills missing in applicants.

The UK has the **6th largest electronics industry in the world** with a turnover of **£98bn** and **1,000,000+ jobs** in the sector. <sup>(8)</sup>



**More than half (55%)** of high tech companies have **no knowledge of apprenticeship reforms** with more than **two-thirds (72%)** stating they did not know they could use apprenticeship qualifications to **upskill existing staff.** <sup>(4)</sup>



**62% of technology managers** want their workers to have a **blend of legacy and emerging tech skills.** But **76% struggle to find those candidates** in the current job market. <sup>(4)</sup>



## Emerging Tech

AI/ML & Blockchain developers; AI professionals with a strong understanding of ethical impacts; Quantum computing and tech.

VR/AR/MR developers and people with the business skills to implement in business; Hardware Design and software; 5G telecoms infrastructure skills; and digital innovators.

In 2017, **51%** of the UK population (aged 16 and above) were **women**, **23%** were **disabled**, **45%** were aged **50 and above** and **12%** were of **non-white ethnicity**. By comparison, just **17%** of **IT specialists** were female, **8%** were disabled, **21%** were from older age groups and **17%** were from ethnic minorities. <sup>(9)</sup>



Total ICT starts 2017/18 = **1,360 (320 Intermediate, 680 Advanced and 360 Higher)** an increase on 2016/17 figures at all levels.



# Notable Achievements

## Local Sector Skills Achievements in 2018

**DigiLocal** run regular, high quality, tech clubs for local young people. Each club is based in a community hub and High Tech Bristol and Bath CIC provides the resources and support for the community.

**Engine Shed** launched their Teacher Inset hosting programme, bringing secondary and primary school teachers into a work environment to inform them about the world of work and opportunities in the sector.

**Tech South West** held its 2019 Skills Summit in Bristol, discussing leading tech skills issues and challenges across the region.

**University of Bath** opened a new £40M national Institute of Coding, established to help close digital skills gaps across the UK. The institute will bring together a consortium of more than 60 universities, national and international corporations, SMEs and industry groups.

**Western Training Provider Network** and **Skills West** supported education with a series of collaborative events across the region through Provider Action Planning. This included an 'Education and Assessor Staff Recruitment' event and an 'Apprenticeship Levy Workshop' for employers.

**Bath Ruby** was a globally recognised conference for Rubyists of all skill levels, hosted by Yukihiro "Matz" Matsumoto, the creator of the Ruby programming language, in March 2018.

**Bristol TechFin** focused on transformative technology, social inclusion, and regulatory change. This landmark event brought together financial and professional services, with high tech and researchers, to discuss the key challenges for the industry.

**Bristol Robotics Laboratory**, a collaboration between the University of the West of England (UWE Bristol) and the University of Bristol, is home to a vibrant community of over 200 academics, researchers and businesses who lead current thinking in service robotics, intelligent autonomous systems and bio-engineering.

**Oracle** chose Bristol as the European headquarters for its Oracle Cloud Start-ups Accelerator programme providing mentorship, cloud services and skills support for start-ups.

Additional funding from the Digital Catapult has been awarded to support five more companies with innovation as part of **IoTUK Boost 2**.

**Bristol Calling/Bath Calling** is an online hub providing job opportunities within member organisations. Supported with practical tools and informative guides for job seekers and fresh talent to help them with the practicalities and considerations around relocating.

**Future Space** connects entrepreneurs and tech innovators with scientists, researchers and graduate talent. It has high tech facilities, lab and office space, alongside access to research and funding schemes, potential partners and future customers.

**Skills West** supported education providers at events, such as Pathways 2 Professions advice events and Ambitions+ at SGS College, aimed at young people and careers advisers to inform of the sector.

# Skills Priorities for 2018

## Priority One

### Improve Careers Education Information Advice and Guidance (CEIAG)

- *Reflecting on how the objectives in this section can address equality and diversity.*



#### Issues

Career pathways into the sector are not clearly defined and targeted at a highly skilled graduate and post-graduate market. Those advising young people on careers are not aware of: current opportunities, roles and the variety of careers pathways, or do not have the experience to support potential entrepreneurs. 75% of the responding high tech businesses to the Business West Skills and Training Survey 2018 have not engaged with a training provider to take on an apprentice or upskill existing members of staff. <sup>(4)</sup>

#### Objectives

- ▶ Bring together businesses, schools, colleges and sector engagement specialists such as STEM Ambassadors, The Tech Partnership and Tomorrow's Engineers to help develop pathways to professions and community engagement programmes
- ▶ Work with the National Careers Service contract holder and Careers Enterprise Network Advisers to further develop and improve Labour Market Intelligence (LMI) and ensure that materials are available to support on-the-ground careers advice and guidance for practitioners as well as careers advisers
- ▶ Businesses to support local young people focused initiatives such as DigiLocal and DigiMakers to continue to inspire the future tech workforce
- ▶ Work with South West Young Apprenticeship Ambassadors Network to improve knowledge of apprenticeships in school leavers

#### Local Response

The **West of England Careers Hub** was launched in September to work with 25 schools and colleges across the region to improve careers and work experience opportunities for young people. The hub offers targeted support to schools, including up to £3,500 per year to use on opportunities to strengthen links with employers, access to a Hub Network Group to build a community of good practice between schools, support from an Enterprise Coordinator and Enterprise Advisors; Careers Leader Training and Continuing Professional Development for wider teaching staff.

**City of Bristol College** is writing a new strategy for the college with messaging for potential students around jobs and careers, rather than levels of study. A real focus on CEIAG and pathways (which can be flexible) prior to joining and throughout. A clear link to LEP (Local Enterprise Partnership) priorities using all available data.

**City of Bath College** Careers Team using employer events to map High Tech careers. Tech employer/student events being focused on employability preparing for T-Level research and work with employers.

**SGS College** vocational provision is focusing on careers aspirations aligned to long term development plans of learners. Learners have careers guidance intervention prior to enrolling, at induction and throughout their time at the college so that they can move onto appropriate courses where necessary (FT to Apprenticeships). In October 2018, SGS College and City of Bristol College delivered the Ambitions + event, which featured the high tech sector amongst others. The event had 120 exhibitors.

**Weston College** ensure all staff undertake industry CPD. Involving employers in CEIAG, including the running of partnership careers fairs and careers talks in classrooms, plus a UCAS convention. Careers advice/guidance strategy all measured by National good practice from CBI and close working with the LEP, DfE and National Careers service. Wider community outreach across North Somerset reaches 6000 young people.

**University of Bath** Institute of Coding bid successful - Participating HEIs will work together to run national campaigns on widening participation, targeting specific groups. Initial areas of interest will include women, ethnic minorities, mature students, returners to work and disadvantaged young people.

**University of West of England** Embark is a new award that gives 16-18 year olds the confidence and communication skills to stand out in the workplace. It shows potential employers that as Embark students, they are able, committed and ready to take the next step. Children's University is an international critically acclaimed programme, funded and delivered locally by UWE Bristol through the West of England Children's University. The programme encourages all children aged 5 to 14 years to try new experiences, develop new interests and acquire new skills through participation in innovative and creative learning activities outside of the school day.

Skills West has delivered over 24 Labour Market Intelligence and careers advice events across the region over the period of the programme. This has included dissemination events at the 4 local FE Colleges and Careers Network Advisers.

#### Future Recommendations

The sector to support the objectives of the Careers Enterprise Company in the West of England as part of the Enterprise Adviser Network and Careers Hub. In addition, to partner with other CEIAG agencies to engage with schools, FE Colleges and Higher Education to promote the high tech sector.

Business to continue to support local young people initiatives such as DigiLocal and DigiMakers to ensure that all young people across the region have access to relevant digital and tech learning.

# Skills Priorities for 2019

## Priority Two



### Improve the quality and responsiveness of local education and training provision

#### Issues

There is a growing need for higher level high tech skills provision within the region at Levels 4 (HNC), 5 (HND), 6 (Degree) and 7 (Masters) due to the concentration of high-tech companies within the area and the shortage of skills. 70% of high-tech businesses in the West of England region state that they struggle to recruit the skills they need to grow. <sup>(1)</sup> There are only a few providers currently delivering new tech standards at the higher levels across the region and there is generally a lack of awareness of what can be offered.

Much of curriculum based learning doesn't take account of different learning styles, changing needs or is connected enough with industry, and many formal training courses use traditional models of learning, which often take time out of the businesses and aren't specific enough to needs or learning styles. According to the results of the Business West Skills and Training Survey 2018, 55% of high tech businesses are unaware of apprenticeship reforms and 72% do not know it is possible to upskill existing staff using the new apprenticeship reforms. <sup>(4)</sup>

#### Objectives

- ▶ Quality and relevant training provision which is delivered in an accessible format and is relevant to high tech industry needs
- ▶ Constant and relevant dialogue between local training providers and the industry to ensure provision is up-to-date, relevant, accessible and cost effective
- ▶ Increase the awareness of apprenticeship reforms and the support available to businesses financially to encourage greater take up of local provision
- ▶ Ensure a quality range of STEM related subjects are on offer across all post-16 provision including short course provision
- ▶ Enable learning in a commercial environment so learners are close to projects. Combine this with a combination of placements and blended learning
- ▶ Business to provide opportunities for education staff to understand and see the workplace and how skills are applied in practice, to enhance the quality of careers advice and raise motivations of staff and students

#### Local Response

**City of Bristol College** is developing programmes (Level 4 and 5) that can lead into software engineering or lead into development of web or mobile applications, gaming and UI or UX Design. The college is creating a STEM centre focusing on computer science technical routes to allow students opportunities to work on programming for robotics, forensics and cyber security.

**City of Bath College** employability team arrange several events with employers to learn from them and co-design curriculum. The college is also a member of the SWIFT Institute of Technology bid looking at the regional development of Technology Level 4 and 5 programmes.

**SGS College** has driven collaborative activity amongst its peers with 3 major events in a very short time span. Levy and reforms event for employers (over 100 employers); 'From industry into education' – careers event to find new industry relevant teaching staff (over 100 applicants/visitors); Ambitions + (the largest post-16 careers event in the region).

**Weston College** is leading the SWIFT Institute of Technology bid with a range of providers, employers and Tech Partnership (sector skills partnerships and collaboration). Offering wide range of new Technology standards at Level 4 and L6 including software development, data analyst and cybersecurity.

**University of West of England** is a partner organisation in the Institute of Coding programme being led by the University of Bath as well as a part of the regional SWIFT bid. The university has been instrumental in the development of new technology standards at Level 6 (Degree) in software and embedded electronics. This is the only Higher Education Institution (HEI) in the region delivering the standards. The Level 6 Digital and Technology Solutions (DTS) standard.

During the lifetime of the **Skills West programme** 3 sets of Local Sector Skills Statements and Provider Action Planning analysis have been produced for each industry sector, offering up to date insight and data analysis within the region to support education with curriculum development.

#### Future Recommendations

Businesses, education providers and stakeholders to work together to ensure continued co-design of curriculum.

Businesses to offer CPD placements to education staff so that they can keep abreast of rapidly changing technology.



# Skills Priorities for 2019

## Priority Three

### Increase apprenticeship starts and availability of higher apprenticeships

- Reflecting on how the objectives in this section can address diversity and equality.



### Issues

Apprenticeship starts remain very low for the sector with a lack of employer engagement. Quality apprenticeships do exist in the region for the sector but there still appears to be a lack of uptake. Apprenticeships do not seem to be regarded as a valid pathway (by industry and careers advisers) and only 13.9% of high tech related apprenticeships in the region during 2015/16 were women. <sup>(11)</sup>

### Objectives

- ▶ Provide clear, accessible apprenticeship advice and guidance to individuals and employers with clear pathways and entry points
- ▶ Increase employer engagement with educators and create partnerships to ensure development of quality high tech related apprenticeships and understand the areas of greatest demand
- ▶ Promote apprenticeships as a valid recruitment pathway and encourage industry to shape the pathways
- ▶ Develop partnerships with industry, Further and Higher Education, training providers and sector skills councils to develop and provide higher level apprenticeships for the sector, particularly at Level 7
- ▶ Education providers to work in partnership with business to raise the awareness of apprenticeship reforms and the financial support available for new starts and upskilling existing staff
- ▶ Businesses to engage with the South West Apprenticeship Ambassador Network and encourage apprentices to become young ambassadors

### Local Response

**City of Bristol College** held an Apprenticeship Reforms and Levy event with SGS College and other partners. Breakfast workshops around reforms with employers. New Apprenticeship Standards in Management/Support Services now being delivered.

**SGS College** is developing strong relationships with employers in a range of subject areas including working in partnership on projects in digital design and marketing. This mutually beneficial arrangement is designed to help support a strong pipeline of candidates.

**Weston College** held an Apprenticeship Reforms and Levy event with SGS College and other partners plus led a series of Weston College round table immersion events with business to explore challenges and issues. Employer feedback shaping the development of curriculum. Worked with Federation of Small Business to explore case study examples in the benefits of skills training at all levels including higher.

**University of West of England** are collaborating with Weston College on the delivery of the Degree Apprenticeship programme for DTS (Digital Technology Solutions – Level 6 where there is joint delivery for the provision. The university is also set up as an End Point assessment organisation for Degree Apprenticeships.

Skills West, as part of Business West, has continued to work with employers to offer free advice and guidance on apprenticeships through face to face engagement and skills clinics.

The South West Apprenticeship Ambassador Network is building a strong cohort of business ambassadors and encouraging apprentices to become young ambassadors.

### Future Recommendations

Local businesses, education providers and stakeholders to continue to work together to ensure introduction of apprenticeships into business of the right quality and level.

Ensure that businesses in the sector that are engaged with apprentices share best practice and working models with other companies.

# Skills Priorities for 2019

## Priority Four

### Engage SMEs in the active retention of staff through programmes of skills development and training to ensure increased productivity and sustainable growth



- Encouraging SMEs to consider best practice in staff welfare.

#### Issues

SMEs in the sector face severe competition for talent, which due to the concentration of high tech businesses is exacerbated in the West of England. Nationally 55% of technology companies state that they suffer from skills shortages which rises to 70% in this region. <sup>(1)</sup> The Business West Skills and Training Survey 2018 highlights that 68% of high tech companies are looking to increase their headcount in 2019, often increasing salaries to lure talent. This creates a sustainability and financial growth risk. Companies, where possible, will increase existing staff workload or look to upskill to cover the shortfall in talent.

#### Objectives

- ▶ Business West and TechSPARK to continue to provide SMEs with the opportunity to identify skills requirements to enable growth
- ▶ Encourage SMEs to work alongside education and training providers to create a strong agile workforce that is able to adapt and grow with industry changes
- ▶ Support SMEs in exploring the best use of new apprenticeship standards for both recruitment and upskilling existing staff, and provide the opportunity for businesses to influence future skills and training provision
- ▶ Education providers to work in partnership with businesses to raise the awareness of apprenticeship reforms and the financial support available for new starts and upskilling existing staff
- ▶ Identify models of successful employee development and encourage sharing of best practice to enable SMEs to adopt more efficient succession planning. Allow staff time off for CPD and personal development
- ▶ Future Bright, Business West and other local business engagement programmes to ensure businesses are aware of the support for in-work training and apprenticeships to upskill their existing workforce and support in-work progression for all employees. Ensuring best practice and learning is shared between businesses
- ▶ Develop partnerships with industry, Further and Higher Education, training providers and sector skills councils to develop and provide higher level apprenticeships for the sector, particularly at Level 7 which is key to upskilling existing staff who may already have higher qualifications

#### Local Response

**City of Bristol College** is writing a new strategy with messaging for potential students around jobs and careers rather than levels of study. A real focus on CEIAG and pathways (which can be flexible) prior to joining and throughout. A clear link to LEP (Local Enterprise Partnership) priorities using all available data.

**City of Bath College** employability team run events with SMEs (Creative Bath which includes High Tech) to encourage more work with students. Also looking at the development of shorter programmes of study through professional routes such as ILM.

**SGS College** meeting Software development demand with an ILP which takes apprentices through L3 and L4 on a software development programme. Four-year (national) program development with Leonardo taking learners through a bespoke 2-year Level 3 programme followed by a 2-year Level 4.

**Weston College** undertakes a training needs analysis with employers to identify other training opportunities that employers may not have been aware of e.g. upskilling existing staff on management training programmes and apprenticeships. The college is aligned with BCS and currently in discussion with DELL and EMC.

Currently, 85% of **University of West of England** apprenticeships are levy employers - UWE will be developing an SME apprenticeship engagement / recruitment strategy in 2018/19 session. National developments - IFA funding band decisions, national HE fees review are significant external factors that will influence how UWE progresses in this area.

**South West Apprenticeship Company** worked with Skills West to deliver advice and guidance to SMEs about how apprenticeships can be used to recruit new staff and upskill the existing workforce.

#### Future Recommendations

Ensure businesses are informed of the support for in-work training and apprenticeships to upskill their existing workforce and support in-work progression for all employees. Ensure best practice and learning is shared between businesses.

Businesses to provide peer to peer learning and mentoring opportunities for staff – allowing time for CPD and personal development.

# Skills Priorities for 2019

## Priority Five

### Support SMEs to be inclusive and effective in staff recruitment

- Reflecting on how the objectives in this section can address equality and diversity.
- How to build the talent pipeline in the region.



### Issues

In terms of inclusion, research by the BCS (Chartered Institute for IT) shows that in the South West region, only 17% of technology roles are held by women. Workers who have a disability are only 6% of the tech workforce and only 4% identify as BAME (Black, Asian and Minority Ethnic).<sup>(9)</sup> This issue is exacerbated in particular with women leaving the profession and then struggling to return to a similar professional standing in the industry or a comparable salary. Compulsory and further education is also a point where diversity matters as research from the organisation Women in Tech shows that only 7% of students taking computer science A-level courses are female and just half of the girls that study IT and Tech subjects at school go into a job in the same field.<sup>(12)</sup>

### Objectives

- ▶ Business West, TechSPARK and other partners to encourage organisations in partnership with diversity technology and HR specialists such as Women in Tech, to analyse job descriptions, recruitment strategies, and interview practices for hidden biases. This includes looking at work based practices and encouraging more flexible approaches
- ▶ Community specialists and education providers to look at the development of regional apprenticeship role models to act as ambassadors particularly around the recruitment of BAME candidates. Explore a social recruitment model
- ▶ Business West and Tech Spark to encourage high tech companies to explore their company culture and the nature of their 'talent pipeline' to open recruitment possibilities for women and under-represented groups
- ▶ Business West to continue to encourage businesses to work across school and community groups in the most deprived areas of the West of England, to illustrate the various career paths and entry routes into the high tech sector
- ▶ Education providers and other key business partners and networks to source tools and case studies to SMEs around inclusive recruitment processes, job descriptions and Unconscious Bias

### Local Response

**City of Bristol College** engaged in a project to eliminate unconscious bias in governance recruitment practices using nudge theory to raise awareness with employers around this issue. Building a series of personal stories or case studies on individuals who are successfully studying where there is a gender bias such as 'women in tech'. College a key partner with BCC Inclusive Cities task force – focus on employability and ESOL (English for Speakers of Other Languages).

**SGS College** has an IAG network and close strategic relationship with the concord partnership, delivering first class careers advice on the LEP sectors and ensuring a diverse range of potential sector applicants hear of the opportunities available.

**Weston College** has award winning provision for learners on the autism spectrum and supports a wide arrange of engagement where this is evident. The support and provision has proven that learners have become more confident and are better placed to access realistic opportunities. Weston is also engaged in Cyber Discovery programmes for Yrs. 10-13, in addition to government initiative ('Hacking' website).

**University of West of England:** The successful Institute of Coding bid ensures that participating universities such as UWE will work together to run national campaigns on widening participation, targeting specific groups. Initial areas of interest will include women, ethnic minorities, mature students, returners to work and disadvantaged young people.

### Future Recommendations

Partners to continue working collaboratively to support businesses to be more inclusive in staff recruitment and recruitment practices.

Businesses to reach out to new communities such as Digital Mums, veterans, work-returners, and people retraining to help change the diversity of businesses and uncover different skill sets/levels of commitment.

## Regional Centres of Excellence and Research

Bath Centre for Digital Entertainment  
Bath Innovation Centre  
Bristol BioEnergy Centre  
Bristol Robotics Laboratory  
Bristol & Bath Science Park  
Bristol Advanced Computing Research Centre  
Bristol Centre for Quantum Photonics  
Bath Centre for Nanoscience and Nanotechnology (BCNN)  
Pervasive Media  
SETsquared (Bath Bristol Centres)

## Key Training Providers

University of Bath  
University of Bristol  
University of the West of England (UWE Bristol)  
Bath Spa University  
Bath College  
City of Bristol College  
SGS College  
Weston College  
QA Training

## Professional Networks and Organisations

BrisTech  
Bristol Games Hub  
Engine Shed  
Girl Geeks  
High Tech Bristol & Bath  
Invest Bristol & Bath  
PHPSW  
SW Mobile  
SWUX  
Tech Partnership UK  
TechSPARK  
Women Tech Hub  
Women in Tech

## Endorsed by

The LEP West of England High Tech Sector Group  
West of England LEP & West of England Combined Authority

## Reference Documents

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- 3) Engine Shed / Set Squared Bristol, Annual Scale Up Review, 2017
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- 5) Bristol Calling, Tech Spark, (<https://techspark.co/bristol-calling-campaign-draws-top-tech-talent-to-the-south-west/>)
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- 11) WISE - Women in Workforce STEM Survey, 2016
- 12) Women in Tech, (<http://www.womenintech.co.uk/>) – Stats and News
- 13) Emsi - economic modelling 2018 courtesy of Prospects Services

## Supporting Research Documents

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- b) West of England Combined Authority Operating Framework 2018/19
- c) Industrial Strategy: building a Britain fit for the future, November 2017
- d) The Grand Challenges, Policy paper, May 2018  
<https://www.gov.uk/government/publications/industrial-strategy-the-grand-challenges/industrial-strategy-the-grand-challenges>
- e) Careers strategy: making the most of everyone's skills and talents, December 2017
- f) Careers guidance: for further education colleges and sixth-form colleges, February 2018

Advise, connect, support

Get in touch today

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The West of England Combined Authority (WECA) covers Bath & North East Somerset, Bristol and South Gloucestershire. WECA also supports the Local Enterprise Partnership, which includes North Somerset.