

South West TECH ANALYSIS REPORT 2022



















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Foreword





Dan Pritchard, Co-Founder, Tech South West

Can anything really be greater than the sum of its parts? With tech in the South West, the resounding answer is yes.

Welcome to the South West Tech Analysis Report 2022.

When you put it all together, the innovation and acceleration happening across the South West of England is startling.

Globally and nationally recognised hubs and an array of tech specialisms spanning GreenTech, MarineTech and AgriTech, to HealthTech and Life Sciences, Creative, FinTech, Deep Tech and Robotics.

This report is a wakeup call to people everywhere who are passionate about doing great tech that has a positive impact for people and planet. It is also a showcase of just a fraction of what is happening around the region. Solving the talent and funding challenges are the two biggest take outs from this report. If we don't, the full potential of the sector will not be realised.

The South West Tech Analysis 2022 Report emerged from discussions within the South West Clusters Group. Thank you to everyone who has been part of that forum. It was the 'acorn' from which Tech South West has grown, to span business programmes, funding groups, annual awards, a tech news site, the regional Tech Leadership Forum, peer groups and more.

We can be proud of the progress and contribution tech is making to the economy and society, and in tackling the greatest challenges of our age, not least climate change and the environment - a subject that so many people across the South West, including the tech community, are resolutely committed to playing their part.

Bristol is fast becoming one of the world's most dynamic and exciting tech hubs. The first spacecraft to take off from the UK will launch from Cornwall Spaceport in 2022. Devon has twin science parks and universities, with globally recognised expertise in MarineTech, Environmental and Climate Science. Somerset is the UK's leading Nuclear technology hub. Bournemouth and Dorset have strengths in Digital and AgriTech, Wiltshire in Life Sciences and Defence and Gloucestershire is world-renowned for its Cybersecurity capability. There is tech prowess across the board.

We hope this report will help others, within and beyond the South West, to realise exactly what we're on to - creating the most exciting, vibrant, and forward-thinking tech cluster, built on community and collaboration, with an absolute focus on tackling the world's biggest problems.

There are challenges, not least in finding the talent and making sure people have the right skills to truly take advantage of the projected growth that this research has evidenced. We are looking at sector growth surging from £11bn to £19.2bn in just five years, creating over 125,000 new jobs. That is a huge opportunity, but one that will require concerted effort from central and local government, investors and funding organisations, universities, colleges, schools, tech hubs, accelerators, tech firms and many others to work together and get things done.

Headline Sponsor Deloitte, and the University of Exeter, Natwest, Censornet, CoreBlue and Astley Media have all been active partners, feeding in knowledge and practical help. Thank you for your positivity and support.

Particular thanks to the team at Whitecap Consulting for the depth and breadth of their work.

I know we couldn't cover everything - and that's good. As a sector, we're too big, too diverse, and too dynamic to squeeze us all into one report.

But our aim was to gather data, understand our strengths, recognise the challenges and create a report that is part guide, part showcase and part 'useful tool' to politely point out to government, business, investors, entrepreneurs, founders, funders, marketeers, supporters, collaborators, commentators, and all the other essential components a thriving UK tech scene needs, that the South West's 'Tech from the Cutting Edge' is truly delivering meaningful change, opportunity and growth, three vital components we need in every region to move forward together.

Enjoy the report.

Foreword

Deloitte.



David Tansley, Vice Chair, Deloitte

Innovation is no longer an option. To stay ahead in business and as a region, technology needs to move at an exponential rate and those that embrace it will have the power to not only shape disruption for strategic advantage but deliver solutions on a global scale.

With a tech sector generating approximately £11bn a year and home to over 17,500 technology businesses, the South West is at the forefront of technological change, with every type of business from well-established companies, scale-ups, startups to entrepreneurs providing end-to-end technology solutions that can change the world.

FinTech, MedTech, EdTech, Creative, Climate, AgriTech and SpaceTech are all embedded within the region, navigating the complexities of an ever-increasing virtual economy.

The possibilities of how the South West can play a major role in this technological revolution are infinite and why we are proud to be sponsors of the South West Tech Analysis 2022.

Mapping out and understanding the existing ecosystem has never been so important as we seek to understand the investment and growth opportunities available and how, with its diverse set of businesses and capabilities, the South West can be a national and European leader in advanced technology.

It is a main economy driver within the South West and wherever you look there is innovation abound. The opportunities for the South West are limitless and the region is already delivering ground-breaking innovations which not only save lives, but time and money. It is one of the reasons Deloitte's technology hub – TechWorks – is based in Bristol, bringing together disruptors, multi-skilled engineers and design teams who are embedded in the region's ecosystem to deliver technological solutions.

An emerging and very exciting area of development is SpaceTech. It knows no bounds and the region has all the components to excel in this area. It has the ability to build satellites, launch them and the know-how to utilise the data via geospatial companies. Advanced projects, such as space-enabled drones and using unmanned aviation, are already changing and saving lives. The pandemic highlighted a range of connectivity issues, not least in how we connect with hard-to-reach communities. We also saw examples of the value that drones can bring to communities through delivery

operations including food and medical supplies – the scope of other provisions is endless and can benefit the lives of people across the UK.

Further development into unmanned aviation and space propositions is already underway and the potential is vast. SpaceTech may be relatively new, but there are businesses in the South West and further afield that have the ability to solve complex issues and are creating a global space network.

Initiatives such as The Gravity Challenge show how Deloitte, and hubs such as TechWorks, support businesses in the use of earth observation, remote sensing and satellite communications to develop downstream apps in a range of areas including air traffic control, space science and IoT.

The South West is a hotbed of innovation and Deloitte is excited to be part of such a collaborative ecosystem which brings together knowledge, specialist business programmes, incubators and accelerators to challenge how we solve problems going forward.

Couple this with the expansive academic network in the region, business and academia in the South West have an opportunity to ensure that the growth and prosperity that can be catalysed through technology is inclusive and creates opportunities for everyone in our society.

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Whitecap Consulting

Established in 2012, Whitecap Consulting is a regional strategy consultancy headquartered in Leeds, with offices in Manchester, Milton Keynes, Bristol, Newcastle and Birmingham.

Whitecap typically works with boards, executives and investors of predominantly mid-sized organisations with a turnover of c£10m-£300m, helping clients analyse, develop and implement growth strategies.

The firm works with clients across a range of market sectors, with strong focus on the role and impact of technology. Whitecap has analysed multiple regional ecosystems across the UK, and has previously published reports on FinTech and LegalTech activity in the South West.

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Thank you to Tech South West for commissioning this work, and to the organisations who have supported and co-funded it:



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Our Time Has Come





Toby Parkins, Chair of Tech South West

Pivotal moment for the Region

When we conceived the idea of the South West Tech Analysis report, we wanted to understand the overall economic scale of the sector across the region, and how its future growth could impact communities. Extensive research has uncovered a breadth and depth of the tech sector, including a wide range of individual parts that collectively contribute to some very significant headlines.

The Compound Annual Growth Rate forecasts are phenomenal, and these should turn the heads of all policy makers. Behind these calculations are low and high forecast variations, and by 2026 we will see a GVA of between £15bn and £23bn. I expect most people would like to see the higher figure achieved, but feel unsure how we can achieve maximum growth.

The simple answer is every business could play a part in creating this growth, but only if the right conditions exist. Of course, luck comes into key investment decisions and individual company expansions, but as most successful business people know, you make your own luck.

Policy decisions will determine whether we over or under achieve. If we make the right policies, we are increasing the probability of achieving the higher growth projections. Most business people will recognise, there have been some policy decisions that have created the conditions for businesses to thrive. The uncomfortable truth is, there have also been policy decisions that have not contributed to as much growth as would have been possible.

So how do we ensure we make the right policy decisions?

You have to choose policies that are going to work. In a business, you know which product or service areas are going to succeed because you carefully research and listen to the decision makers. Not just one, or a few, but a significant enough sample to reduce probability of error.

One of the challenges both local and regional government has is the many vested interests trying to influence policy. These interests can swerve policy to help individuals create funding streams for their own organisations, whilst others will help businesses grow. It is those businesses that create increased GVA.

Put really simply, if we can amass a significant sample of businesses to engage in policy development research, that they can see resulting in business growth, then we succeed. If we do not, and end up with a majority influence outside of growth businesses, then we will fail.

Tech South West and local Cluster Groups

Everyone knows of Eric Reis's Lean Startup model. As I look around the region, I see lots of small, lean funded, but highly efficient cluster groups and a lean Tech South West. Behind them are thousands of incredible businesses, contributing towards the amazing 11.8% CAGR figure, and who can help make the £8bn difference.

Now is the moment. Now is the time. Which other sector in the region can point to growth that, if achieved, has the potential to create over 125,000 new roles?

Businesses across the South West must step forward, and collaboratively with Government, help create the policies that will make a significant difference to our region.

Executive summary

Introduction

The South West is one of the nine major regions of England, and twelve across the UK. It is spread across a unique geography including vast stretches of coastline and is home to a large and growing tech sector.

Within this report we refer to the South West region, and we break it down into seven key sub-regions (Cornwall, Devon, Dorset, Gloucestershire, Somerset, West of England, Wiltshire).

It is estimated that the tech sector in the South West already generates £11bn of GVA for the region's economy, forecast to rise to close to £19bn over the next five years. The driver for this growth will be the richness and diversity of tech strength in the region, and particularly within tech sectors which are growth areas for the future. Throughout this work we have taken a broad and inclusive view of what tech is, acknowledging it as a discipline with specialisms, but not actively excluding any sector or specific capabilities.

The analysis performed as part of the research for this report forecasts the next five years could see a 74% increase in the number of tech jobs in the South West, rising from an estimated 168,847 in 2021 to 294,380 in 2026. This represents an increase of 125,533 tech jobs, representing an 11.8% CAGR. The forecasted growth would build on what is already a key strength for the region. With a tech sector GVA per capita of £1,943, the South West sits second in the UK when compared to other regions outside London and the South East, with only East of England ranking higher.

The breadth and depth of the tech sector across the South West is highly impressive and includes highlights

such as Digital and Deep Tech capability in Bristol, Gloucestershire's reputation as a national leader in Cybersecurity, Devon's globally recognised Climate expertise, Dorset's increasingly prominent role in AgriTech, Wiltshire's strength in life sciences and defence, and Cornwall's quickly evolving and high profile SpaceTech capability. In this report we explore each of these subregions in more detail, painting a picture which reflects a rich tapestry of technology-led innovation. Excluding London and the South East, the South West has been found to have the third highest percentage of the UK's scaleup companies (9.4%).¹

Our data analysis maps the growth of the sub-regions within the South West over recent years, and forecasts ongoing growth over the next five years. In addition to this quantitative analysis, we find that recent developments, most notably Covid, have enabled easier communication for specific tech sectors across geographies that otherwise required lots of travelling. This also appears to have led to a more open-minded approach to communication and collaboration. We conclude there is an opportunity for this collaboration to be developed into specific and targeted activity, primarily within common sectors rather than as a blanket activity across the whole of the South West.

Over recent years, the South West region has been the subject of various initiatives to create regional cluster groups. Western Gateway brings together the West of England, Gloucestershire and Wiltshire with South Wales. Meanwhile, the 'Great South West' is an alliance that spans the Local Enterprise Partnership (LEP) areas of Cornwall & the Isles of Scilly, the Heart of the South West (Devon and Somerset) and Dorset. Its ambition is to sit

alongside the Government-backed Northern Powerhouse, Midlands Engine, and Western Gateway, as a major economic area.

These initiatives also serve to highlight a gap between the north and south of the region; something which was very evident during this analysis and is reflected in some of the existing collaboration activity. The political and economic development zones of the Greater South West and Western Gateway provide a political divide which counters the synergies within the region's tech sector.

Naturally, the potential creation of more than 125,000 jobs raises the key question of where the people will come from who can fulfil these roles. During the course of our analysis, we heard from stakeholders who were experiencing challenges in filling tech roles, and retraining staff in niche fields. This is a situation which is currently being experienced across the UK, but perhaps the South West finds itself in a stronger position than other regions, due to the highly attractive lifestyle benefits it can offer, which can draw more talent to the region.

When assessing the current and future prosperity of a location, it is increasingly important to look beyond economic measures alone. The South West has a strong story to tell across economic, societal, and environmental themes. In particular, the environmental focus within the South West is highly impressive. The University of Exeter, for example, is home to many of the UK's leading climate scientists, five whom are named within the top 21 globally.²

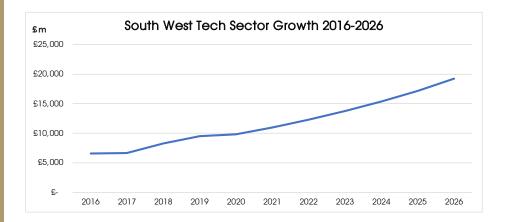
We hope you find this report an insightful and valuable resource.

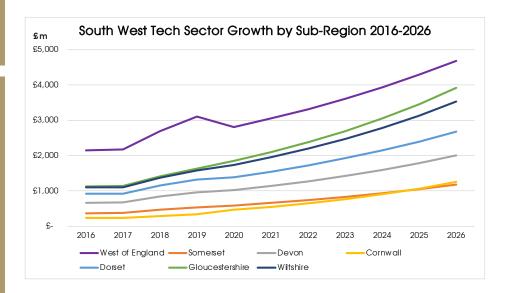
¹ https://www.ukfinance.org.uk/news-and-insight/blogs/understanding-sme-finance-regional-difference

² https://www.reuters.com/investigates/special-report/climate-change-scientists-list/ © Whitecap Consulting

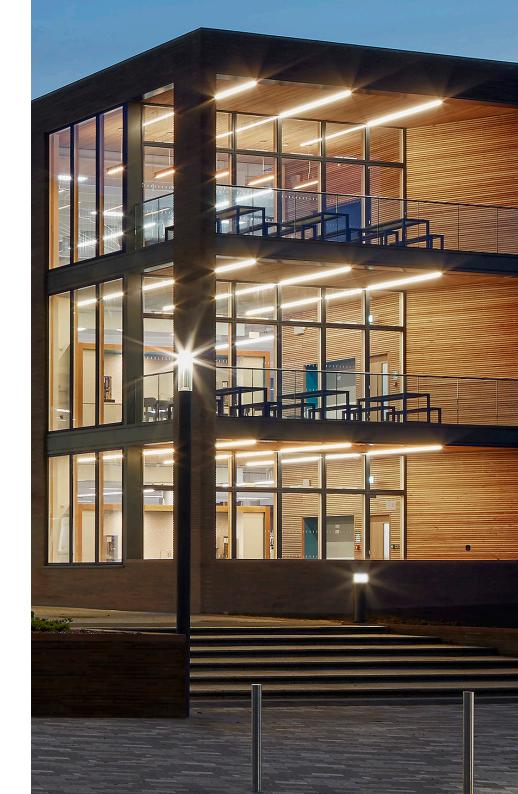
Summary of Key Themes

- 1. The South West has a large and diverse tech sector with several world-leading and world-class specialisms and facilities.
- A growing number of nationally and internationally recognised hubs and innovation spaces are located in the South West. They play a key role in the region's economy and reputation as a regional tech hub.
- The variety of tech specialisms across the region, and its large geography, makes it harder to define the South West's overall tech brand and identity, but is actually a strength, ensuring a thriving and resilient tech ecosystem, with a wide variety of tech companies and organisations, and many specialist technical roles and career pathways in numerous disciplines across industry, research and education.
- The South West has world-leading specialisms in MarineTech, Environmental Tech and Climate Science, World-class specialisms in Cyber, Photonics, Quantum, Composites and AgriTech and many specialisms of national significance including FinTech, Robotics, Al. SpaceTech, CleanTech, HealthTech, Data Science and Creative.
- Some specialisms exist in several parts of the region including MarineTech, HealthTech, Life Sciences, Environmental Tech, AgriTech and Creative. Some of these support an overarching green, or natural powerhouse, aspect of the region's tech ecosystem, with an array of expertise and research capabilities, strong enough for the region to become an Environmental Tech hub of global significance.
- 2. Funding for the tech sector across the South West is growing, providing the potential to create significant opportunities for enhanced economic growth, innovation, research, and development.
- There is an increasing amount of funding available across the South West, which can create significant opportunities if it can successfully be accessed by the tech sector.
- Availability and effectiveness of funding can be enhanced through improving the
 efficiency of deployment, matched funding, identifying opportunities, signposting for
 investors and investees, and raising awareness and engagement of options across
 equity investment, debt funding and grants.
- Fund groups are showing increased interest in the South West, driven by increased opportunities for innovative tech investment and a need to grow their presence to be considered as serious players within the region.
- The angel investor community outside of Bristol is relatively small and presents an opportunity to grow the funding available to tech companies within the region





- Growth will be further accelerated with a larger and more diverse talent pool
 within the region, alongside a clear strategy to grow, attract and retain more
 people to the sector.
- There are 169,800 students at the region's 14 universities, including 19,500 tech and engineering students, but the talent pool will need to grow significantly to satisfy forecast growth, from entry-level to senior roles.
- Courses and qualifications need to be more aligned to the needs of the tech sector.
- Work needs to be done to promote the sector, and the many tech specialisms and roles, to potential employees, including students, in the South West and beyond the region. The range of tech specialisms makes this harder, but is actually a positive attribute of developing a career in tech in the region.
- The increased adoption of remote and hybrid working provides opportunities to attract people to the region because of the high quality of life, but also creates risks around people working for companies outside the region.
- 4. There are opportunities to create a more cohesive, better performing and innovative ecosystem.
- The region has a strong and self-sufficient tech ecosystem, with the broad array of tech expertise and facilities having the potential for further cross-fertilisation and collaboration between specialisms. For example Cyber, Data Science and AI can support innovation and growth in many other specialisms.
- The region's universities are key drivers of research and innovation, and involved in many of the South West's major technology-focused facilities and hubs.
 Approaches need to be developed so more tech firms, including smaller companies, can interface and benefit. Universities, companies and supporting organisations need to address this together.
- As well as within the region, several tech specialisms are active participants in national and international ecosystems beyond the region.



Recommended Actions for the South West Tech Sector

Recommended actions

PLAY TO OUR STRENGTHS:

The South West has a large and diverse tech sector with several worldleading and world-class specialisms and facilities.

- Continue to support and champion the diversity of tech specialisms across the region, including variations in the north and south of the region. Use this 'strength in depth' attribute to attract more, and a broader range of, funding and talent.
- Create a compelling narrative to support national and international messaging and competitiveness by focusing on the region's tech strengths and attributes. Define this and promote it nationally and internationally, engaging with regional and national decision-makers, policymakers, government departments (e.g. Dept for International Trade), and other bodies (e.g. CBI, Chambers of Commerce).
- Investigate the opportunity to further connect, collaborate and do business through and with global tech initiatives, programmes, and hubs that specialise in the environment and sustainability tech, building on the strong work of universities and science parks in the region, including areas like Environmental Science, Climate Science, Cybersecurity, MarineTech, Photonics and Robotics.

Key stakeholders

- Tech cluster groups including Tech South West.
- Local and regional government including LEPs, combined authorities, and other local policy groups.
- Universities, science parks, accelerators and other tech hub centres of excellence, SETsquared.
- Tech companies.
- Relevant national government departments and agencies.
- Regional and national trade bodies.

2. ENHANCE ACCESS TO FUNDING:

Funding for the tech sector across the South West is growing, providing the potential to create significant opportunities for enhanced economic growth, innovation, research and development.

- Continue to develop the ecosystem supporting early-stage tech businesses across the South West to access funding and in particular the southern part of the region to ensure we identify and nurture high-potential opportunities
- Improve the quality and increase the number of applications for non-dilutive and dilutive funding for pre-seed, seed and Series A tech companies:
 - Improving the quality of grant applications for Innovate UK grants
 - Educate founders how to present their businesses and focus on what investors are looking for when considering investment; improving deal-flow for angels and investment managers, including the British Business Bank's South West Fund.
 - Help improve investor knowledge and understanding of the dynamics and requirements of the startup ecosystem
- Improve the efficiency of funding deployment in the South West:
 - Improve sign-posting to available dilutive and non-dilutive funding across the South West

- Increase the size of the angel investor community in the South West, with a particular focus on growing the number of angels in the southern part of the region:
 - Redirect investment leaving the South West back into the region
 - Increase visibility of deal flow to the angel investor community in the South West and make investing as seamless process as possible
- Improve awareness of SEIS/EIS & VCT investment among advisors across the South West, and how funds can make the sector accessible for their clients as part of a diversified portfolio.
- Identify and educate professionals in the region around SEIS/EIS and VCT investment.
- Showcase the South West Tech Sector both nationally and internationally to highlight opportunities and to increase the amount of investment entering the region.
- Form a tech investment working group to enable focused discussion, strategy development and agreed resources and actions.

- Tech cluster groups including Tech South West.
- Universities, science parks, accelerators and other tech hub centres of excellence, SETsquared.
- Tech companies.
- Local and regional government including LEPs, combined authorities, and other local policy groups'.
- British Business Bank.
- Innovate UK.
- UK Business Angel Association.
- Enterprise Investment Scheme Authority.
- Angel Groups; Bristol Private Equity Club, MAINStream, Dorset Business Angels.
- Investment Fund Community.

Key stakeholders

Q GROW TALENT AND SKILLS:

Growth will be further accelerated with a larger and more diverse talent pool within the region, alongside a clear strategy to grow, attract and retain more people to the sector.

- Achieve closer alignment between talent development within education and the skill needs of tech companies through improved dialogue at a senior level. Form a tech businesseducation leadership working group to enable focused discussion, strategy development and agreed resources and actions.
- Develop a Tech Talent Strategy, with education support and buy-in, driven by the needs of the regional tech industry and longer term forecasting, setting out required skills and competencies at a general and specialismspecific level.
- Enhance links between academic courses and the requirements of employers, to help deliver a 'work ready' flow of school leavers and graduates into the workforce.
- Do more to improve diversity and inclusion within the tech sector which lacks sufficient female and ethnic minority involvement at all levels. Actively promote tech sector career opportunities and engage with under-served regions and communities, including in areas of deprivation and amongst ethnic minorities.
- Consider how larger organisations, including industry bodies and tech clusters, can help smaller tech companies tap into local talent pipelines.

- Demonstrate to tech companies the opportunities and benefits of partnering with schools, colleges and universities to build a talent pipeline.
- Improve accessible tech career information and resources for all age groups / career stages. Focus on key positives including the variety of tech roles, average salaries, overall strength of the sector, range of career pathways, underpinning themes including Environmental Tech, and quality of life. Use real-life and diverse case studies and role models. Develop a strategy and resources that also targets beyond the region (e.g. to support inward investment organisations).
- Consider what digital platforms and technologies could be developed to improve visibility and accessibility of tech work experience, placements, internships and jobs.
- Encourage activity that helps the tech scene to flourish, including engagement with remote workers at organisations operating outside the region.
- Demonstrate the advantages to tech companies of looking to other sectors to help address gaps in senior roles. Work with broad business organisations including chambers of commerce, the CBI and South West Business Council to promote opportunities across the wider business community.

- Universities, Further Education Colleges and Schools.
- Tech cluster groups including Tech South West.
- Tech companies including major employers, startups, scaleups, enterprises and SMEs.
- Institutes of Technology in the region.
- Local and regional government including LEPs, combined authorities, and other local policy groups.
- Science parks, accelerators and other tech hub centres of excellence, SETsquared.
- Digital Skills Partnerships, Careers Hubs and other tech talent and STEMM focused partnerships and initiatives
 within the region and national organisations with a regional remit.
- · Recruitment sector.

4. INCREASE ECOSYSTEM COLLABORATION:

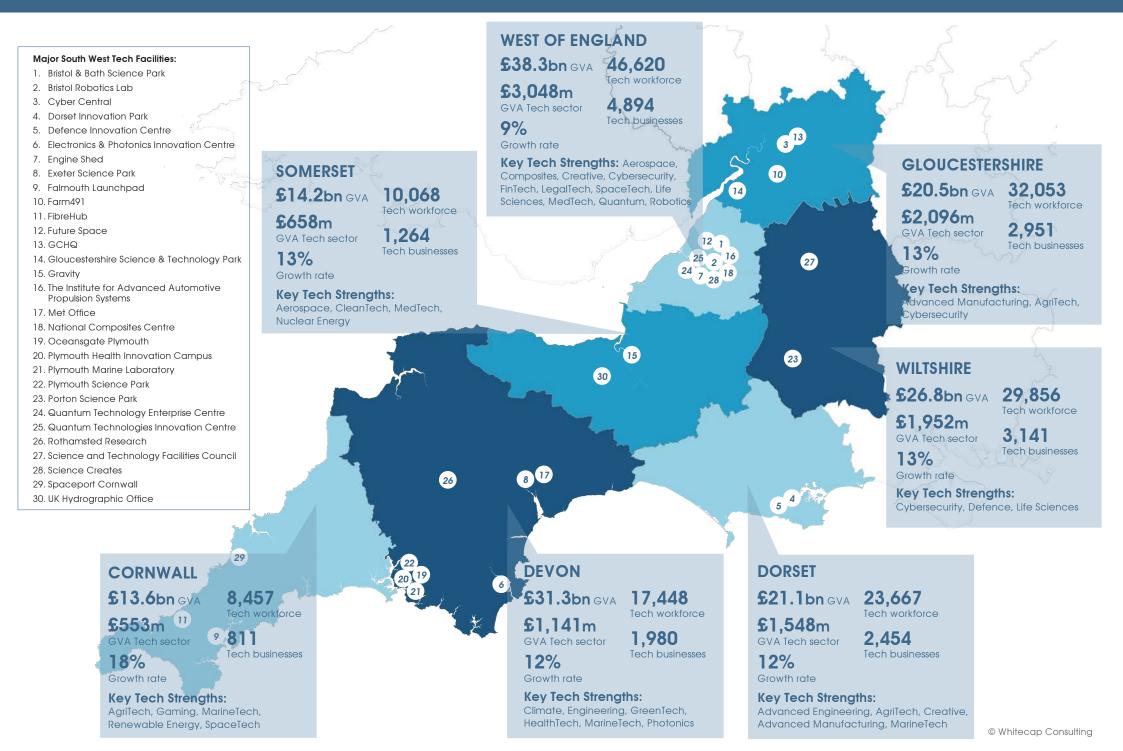
There are opportunities to create a more cohesive, better performing and innovative ecosystem.

- Build on positive engagement activity to develop a more action-based approach, encouraging further collaboration across the region, generally as a tech sector and also within - and where beneficial - between individual specialisms.
- Seek, facilitate and build on synergies between tech specialisms within the region, for example drawing on the strengths of AI, Cybersecurity, Environmental Tech and Data Science.
- Opportunities and benefits should be evaluated to introduce new, and build on existing, virtual hubs, cohorts and communities, to help plug some of the ecosystem gaps across the region, including outside cities, for example the emerging Technopole in the Heart of the SW LEP area.

- Ensure tech sub-sectors are working well together beyond vertical 'markets' to maximise opportunities.
- Encourage further engagement between universities and the tech sector, promoting the role that collaborative research and innovation projects have in developing the South West's competitive advantage in key tech specialisms. This should include tech firms of all sizes.
- Target more research and innovation opportunities, drawing on insight from the economic and academic community, to highlight opportunities for collaborative lobbying and bids for national and international research funding.

- Tech cluster groups including Tech South West.
- Tech companies.
- Universities, FE Colleges.
- Science parks, accelerators and other tech hub centres of excellence, SETsquared.
- Tech partnerships and collaborative initiatives for different specialisms e.g.
 Maritime UK South West, Health Tech hubs and partnerships, SW Cyber Cluster.
- Local and regional government including LEPs, combined authorities, and other local policy groups.

South West Tech Ecosystem 2022



South West Tech Ecosystem 2022

South West region



5.7million population

2.8million workforce

50%



£165.9bn Gross Value

8.2% of UK GVA

Tech Sector



17,500

Tech companies



168,000

Tech workforce

5.9%

of UK's Tech sector



£11.0bn
GVA Tech sector

11.8%

CAGR Tech sector

Tech Talent



14 universities

169,830 students

19,500 Tech & engineering students



2x the proportion of Tech workers from ethnic minorities (8.8%) compared to region's population

Key facts

- The West of England has the largest tech workforce in the South West. Bristol is the primary, internationally-recognised, tech hub and the region has core expertise across a diverse set of tech capabilities ranging from Aerospace, Cybersecurity and Composites, through to Life Sciences, FinTech, LegalTech, MedTech and Quantum.
- Somerset is home to a small but growing tech sector, with the development of Hinkley Point C solidifying strengths in nuclear energy and the construction of the new Gravity site enabling CleanTech innovation and sustainable development.
- Cornwall has the fastest growing tech sector in the South West, with strengths in SpaceTech, MarineTech, and AgriTech.
- Gloucestershire has the highest concentration of tech workers in the South West and is at the forefront of Cybersecurity in the UK.

- In Devon, Plymouth is home to a world-leading MarineTech sector, with one of the largest clusters of Marine Science expertise in Europe. There is a strong focus on CleanTech and climate change in Exeter, with five out of the 21 leading climate scientists globally based there. Torbay is at the centre of the electronics and photonics sectors in the UK, with rapid growth in the sector giving it an international reputation.
- Dorset has a long history in the farming industry and has a prominent presence in the AgriTech sector. It is also a growing hub for Advanced Manufacturing, Creative and MarineTech.
- Wiltshire's tech sector employment is focused on Swindon, home to brands such as Intel, Siemens and, in Malmesbury, Dyson. South Wiltshire is home to Porton Science Park, a hub for Defence and Life Sciences.

Stakeholder Perspectives

"We need to make sure we're as collegiate as possible because that's been our USP. If you're Google or Microsoft, and you're looking at the UK as to where to set up an R&D lab, you're not interested in the boundary between different parts of the South West, you're looking at the whole area. We need to make sure we come together and share a common narrative."

Nick Sturge MBE, Chair, TechSPARK & Strategic Adviser, Cyber Central Innovation Zone, Cheltenham Borough Council

"Once we start talking about the South West rather than just Bristol, it opens more doors and gets more interest. There is a big opportunity for people in the South West to get involved in projects from across the country. Many of our projects are now made up of international teams. It enables our clients to access the talent they need."

Stephen Reed, Head of Delivery, BJSS

"All around the South West, we are witnessing growth in employment opportunities, particularly because of Science and Technology which are attracting a highly skilled workforce to the region. There's quite a large catchment of experienced engineers and scientists in this area because people like to come and live in this beautiful region thanks to its transport links to London, Bristol, Southampton and Plymouth. It's very much noted that skills and creative talent have been leaving London and the South East to relocate to this region because opportunity attracts talent."

Mutamba McCormack, Site Operations, Porton Science Park

I think Innovate UK has been a great success. It has especially helped in high-risk high technology areas and it has resulted in a real step-change in these areas. We need more grant support, and it needs to be substantial, especially the biomedical catalyst which is really underfunded. In terms of what we put into these sectors we are still behind many other countries."

Harry Destecroix, CEO & Co-Founder, Science Creates Incubators

"One of the things that we're trying to do by building a network of networks is help the UK become less London centric. We've always had a strong ambition to be within Bristol, which is an ecosystem which we've looked upon very admiringly for the five or six years we've been up and running. We recognise a concentration of talent and corporate capabilities within the Bristol area."

Jon Hope, Director, Barclays Eagle Labs

"Knowledge doesn't have geographic boundaries."

Jonathan Beaverstock, Professor, University of Bristol

"Having worked in San Jose in Silicon Valley, it was a really nice place to be, and it was kind of rural back in those days, with great research universities and a lot of people with money. These things are very much in place down here in the South West."

Charles Ewen, Director & CIO, Met Office

"I think we are as well positioned as any other region, and probably much better positioned than most in terms of people with the skills to keep up with changes in the tech sector. Our proximity to capital markets in London is good, our technology skill base is very good, and the South West is a great place to live."

Mark Corderoy, Bristol Robotics Lab

"The South West has 9.4% of the UK's SME's against which utilises 3.9% of the UK's equity deals and 1.9% of private debt, demonstrating that there is much more finance support needed to support growth."

Paul Jones, Senior Manager UK Network Team South West,
British Business Bank

"One of the advantages tech has is that it doesn't have the environmental footprint of more traditional sectors. But one of the disadvantages of that is that people don't realise it actually exists, because they don't see hundreds of people walking out of the factory gates. People working from home can be incredibly productive in economic terms, but it is harder to see this is happening."

Toby Parkins, Founding Director, Headforwards

South West Tech Analysis 2022

Key Findings

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Tech Sector

- The South West tech sector is substantial and is forecast to grow significantly
- There are a wide range of prominent subsectors including: Climate, MarineTech, SpaceTech, Life Sciences, CleanTech, Photonics, Composites, Digital
- The South West is one of the top regions for digital accessibility
- There are some nationally significant facilities across the region



up & Scaleup cosystem

- The South West is an increasingly attractive location for startups and scaleups
- Bristol is one of the UK's most impressive startup clusters, and is the primary hub in the South West
- Universities and corporates in the South West are actively supporting startups
- There are specific initiatives aiming to encourage more startups in the South West



Talent

- The competitive tech labour market is inflating salaries
- The impact of a shortage of expertise is significant for startups
- The South West is well positioned geographically to attract the senior talent it requires
- Colleges are exhibiting strong business engagement and providing practically orientated courses

Research & Innovation



- There is a strong focus on environmental and sustainability focused tech
- The universities are central to the region's research and innovation activity
- The focus of research and innovation activity is driven by core competences and/or geographical factors



Funding

- The new £200m regional fund could represent a catalytic opportunity for investment activity in the South West
- The South West accounts for the largest proportion of the UK's lending to SMEs outside London and the South East
- Bristol businesses are the primary recipients of investment funding raised in the region
- The investor community in the South West does not always have direct experience of the tech sectors

Regional, National & nternation Connectivity

- The South West is home to many clustered organisations and hubs that promote connectivity across their cluster and sub-region
- Wider collaboration across the entire South West is primarily limited to technology sectors
- Many institutions within the South West have important national links
- The South West's numerous world-class capabilities form part of the UK's international competitiveness

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Tech Sector

Key findings

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- The South West is one of the top regions in the UK for digital accessibility
- There are some nationally significant facilities across the region

The South West tech sector is substantial and is forecasted to grow significantly. The region has the fifth largest tech sector of the 12 major regions in the UK, worth £11.0bn, which is generated through a tech workforce of around 170,000.

Although already well established, the sector is forecasted to grow at a 11.8% CAGR over the next five years, with some sub-regions estimated to grow nearly 20% annually. As a result, the South West's tech sector could be worth over £19.2bn by 2026. The South West currently has the fourth highest tech GVA per capita in the UK, (behind only London, the South East and East of England) reflecting a high concentration of tech capability in the workforce relative to other regions.

As has already been highlighted in this report, the region has a wide range of prominent and world-leading and world-class subsectors such as Climate, MarineTech, SpaceTech, Life Sciences, CleanTech, Photonics, Composites and Digital.

In addition to having world-leading and world class capabilities across a wide range of established sectors, the South West is also home to several high-profile emerging sectors. For example, Quantum is becoming increasingly prominent nationally and internationally, and it has been reported that a third of all UK Quantum startups have originated out of the University of Bristol.

Last year's annual Tech South West survey highlighted Health and Climate as key priorities across the whole region,³ but there are many distinct tech specialisms across South West, deriving from factors such as natural geography, geopolitical influences, and cluster organisations based around cities and counties, like Software Cornwall or Tech Exeter.

As a general observation, Digital Technology is more prevalent in the northern half of the region, although there are several strong digital clusters across the South West, including Bournemouth. Overall, the South West has a relatively high Digital sector share of new business startups at 7.9%. The region is one of the topperforming regions in terms of digital accessibility, with the proportion of people aged 16+ using the internet (93.4%) being in the top quartile. Superfast broadband coverage in the South West, however, is at 92%, which is in the lowest quartile nationally, but this is perhaps not surprising given the vast geography of the region and the amount of rural land.⁴

This report highlights the hugely impressive range of nationally significant facilities which exist across the region, something which is undoubtedly one of the standaut observations from this report. Some of major place-based facilities are listed on the next page, along with brief descriptions of their focus and activities.

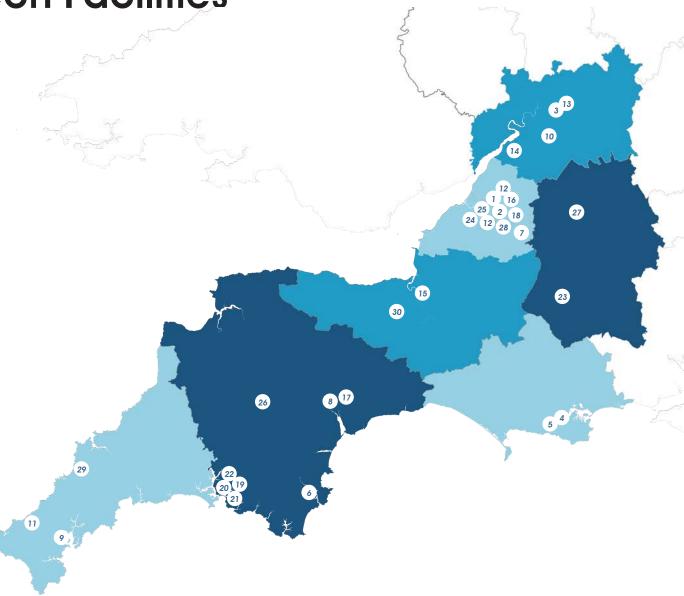
Additionally, the SETsquared programme, regularly recognised as the global number one university business incubator, is active across multiple locations in the South West, operating out of facilities in Bristol, Bath, and Exeter.

³ Tech SouthWest Annual Survey 2021

⁴ Department for Diaital, Culture, Media & Sport: Assessina the UK's Regional Diaital Ecosystems

Major South West Tech Facilities

- Bristol & Bath Science Park. A 59-acre site co-owned by University of Bath and South Gloucestershire Council, where innovation-focused science & technology businesses can develop technical designs for production. Home to the National Composites Centre.
- 2. Bristol Robotics Lab. A collaboration between University of the West of England (UWE Bristol) and the University of Bristol, home to a vibrant community of over 450 academics, researchers, industry practitioners and startup businesses seeking to understand the science, engineering and social role of Robotics and Embedded Intelligence.
- Cyber Central (Cheltenham). Based in the Golden Valley Development, Cyber Central is the UK's home of Cybersecurity, Digital, and Creative sectors.
- 4. Defence Innovation Centre (Dorchester) based in Dorset Innovation Park, the centre allows the Ministry of Defence (MoD) to work directly with SMEs, academic institutions and wider industry to develop new technology and products that could be commercialised in the future.
- 5. Dorset Innovation Park (Dorchester) Developing as an Advanced Engineering cluster of excellence for the South West, building on its strengths in Marine, Defence, Energy and Cybersecurity. The park houses 25 companies and nearly 700 people are based there.
- 6. Electronics & Photonics Innovation Centre (Torbay). EPIC provides space and labs for high-tech photonics businesses, including specialist equipment to support R&D, prototyping, innovation and testing in emerging technologies.
- Engine Shed (Bristol). Recognised as the heart of Bristol's enterprise activities, where many entrepreneurs, business leaders, academics and corporates meet and collaborate. Also home to SETsquared Bristol.
- 8. Exeter Science Park. A 64-acre site, created by University of Exeter in partnership with Devon, East Devon, and Exeter local councils. It supports innovative Science, Technology, Engineering, Mathematics and Medical (STEMM) companies by hosting, mentoring and funding them, and is also the home of the Met Office and SETsquared Exeter.



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- Falmouth Launchpad. A venture studio embedded within Falmouth University that also provides access to coaches and mentors. It is also part of the Global Startup Studio Network (GSSN).
- Farm491 (Cirencester). An AgriTech incubator and innovation space from the Royal Agricultural University focused on the future of farming and food systems.
- 11. FibreHub (Camborne). A new tech hub based on the Cornwall College Campus, FibreHub opened in 2021, part of a long-running vision to put Cornwall's digital, software and tech businesses on the map and offers a hub for digital organisations alongside education and emerging talent.
- 12. Future Space (Bristol). Part of University of West of England Enterprise Zone. Provides office and lab space and is a hub to connect entrepreneurs and tech innovators with scientists, researchers and graduate talent.
- 13. GCHQ (Cheltenham). The UK's intelligence, security and cyber agency, GCHQ is a world-leading agency with a mission to keep the UK safe. GCHQ uses cuttingedge technology, technical ingenuity, and wide-ranging partnerships to identify, analyse and disrupt threats to the UK.
- 14. Gloucestershire Science and Technology Park (Berkeley). The 110-acre site originally intended as a base from which to train nuclear engineers, but its focus has switched to renewable technologies, and it is now recognised as a national centre of excellence for Sustainable Energy and technology research. It is also home to C11, a Cybersecurity and digital innovation centre.
- 15. Gravity (Bridgwater). A new 616-acre smart campus being built in Somerset that aims to provide commercial facilities for the next generation of businesses focused on clean, renewable and environmental innovation.
- 16. The Institute for Advanced Automotive Propulsion Systems (Bristol). IAAPS is a world-leading centre of excellence for research, innovation, enterprise and education, supporting the future direction of the Automotive Industry.

- 17. Met Office (Exeter). The national meteorological service for the UK, providing critical weather services and worldleading Climate Science research. Working with Microsoft, they developed a weather forecasting supercomputer, funded by a £1.2bn investment by the UK Government.
- 18. National Composites Centre (Bristol). Established to develop new composite materials, technologies and processes. One of seven research centres across the UK that form the High Value Manufacturing Catapult, and the first open access digital 5G factory in Britain.
- 19. Oceansgate Plymouth. The 35-hectare site on the southern edge of Devonport Dockyard is one of the largest dockyards in Europe. Its strong maritime heritage and cutting-edge research and development attracts a growing network of Science, Advanced Engineering and High-Tech Manufacturing companies.
- 20. Plymouth Health Innovation Campus. A Health innovation and technology hub that utilises the South West's clinical workforce and cross-sector skills base to develop Health innovation and enterprise capacity.
- **21. Plymouth Marine Laboratory**. A world-leading research organisation, and registered charity, undertaking pioneering Marine research.
- 22. Plymouth Science Park. A 25-acre centre of excellence for research and innovation, created by Plymouth City Council and University of Plymouth. Provides support to startups, and international businesses and is a hub for HealthTech, Marine and technological innovation.
- 23. Porton Science Park (Salisbury). Provides incubators, growon space and support to companies operating in Health, Life Sciences and Defence Technology sectors.
- 24. Quantum Technology Enterprise Centre (Bristol). QTEC is a skills hub in the UK National Quantum Technologies Programme. Funded by Engineering and Physical Sciences Research Council, it educates and creates Quantum entrepreneurs and support the growth for the Quantum sector in the UK.

- 25. Quantum Technologies Innovation Centre (Bristol).

 QTIC offers dedicated facilities to support academic researchers, early-stage entrepreneurs and startup companies in Quantum and Deep Tech. It received £35m in investment from local government, and a full-scale facility will open in 2025.
- 26. Rothamsted Research (Okehampton). A world-leading, non-profit research centre that focuses on strategic agricultural science to the benefit of farmers and society worldwide. North Wyke Farm Platform (NWFP), with its unique sensors and predictive modelling capability, makes it one of the most instrumented farms in the world.
- 27. Science and Technology Facilities Council (Swindon). STFC is a multi-disciplinary science research and innovation organisation, working with universities, research organisations, businesses, charities, and government to build a globally competitive, knowledge-based UK economy.
- 28. Science Creates (Bristol). A Deep Tech ecosystem, partnered with University of Bristol, combining specialist incubator facilities (Unit DX and DY), strategic partners and VC funds. Science Creates mainly focuses on HealthTech and CleanTech and has its own early-stage investment arm.
- 29. Spaceport Cornwall (Newquay). The UK's first spaceport. It will play a critical role in developing the UK's space industry with Goonhilly Earth Station, providing a complete 'end to end' UK horizontal launch capability to support all aspects of launch.
- **30. UK Hydrographic Office** (Taunton). A world-leading centre for Hydrography, specialising in marine geospatial data to support safe, secure and thriving oceans.

Stakeholder Perspectives

"We need to acknowledge that the private sector is diverse and where employment, growth and opportunities are made are typically in SMEs. We must be more welcoming of a plethora and diversity of companies operating in tech, Life Sciences, Health and Pharmaceuticals."

Mutamba McCormack, Site Operations, Porton Science Park

"In terms of quantum, the short answer is, there's a lot of work to do to get viable hardware, and good progress being made. But there's a lot of maths research that needs to be done to develop the algorithms that can exploit such hardware, and then there's a whole world of programming models that are needed to be able to actually do anything useful with that."

Charles Ewen, Director & CIO, Met Office

"COVID made us realise that we are not competing locally, but nationally and internationally."

Ian McFadzen, CEO, Plymouth Science Park

"There is still a view that robots take away jobs, but I've been having conversations with a number of companies now where they're actually seeing it from a significantly different perspective. Now, they're saying that automation takes away vacancies. It's easy to forget that the first robot arm was deployed over 60 years ago in America."

Mark Corderoy, Incubation Manager, Bristol Robotics Lab

"We have quite a lot of interest in people from the South West investing into quantum technologies. There's a company in Paris, but in terms of other investments, that comes from the Cambridge region, London and Bristol seem to be our top regions for investment opportunities for our business."

Kimberly Brook, Programme Manager, QTEC

Melissa Thorpe, Head of Spaceport Cornwall

"Our tech sector can drive regional growth, and we can help innovators and researchers to develop and commercialise space technologies and satellite applications across wide-ranging sectors, for beneficial environmental, economic and societal impact."

Conrad Gillespie, Centre Manager, South West Centre of Excellence in Satellite Applications

"I think the outdated misconceptions about the South West are slowly changing, and people are realising we are at the forefront of the technology required to lead the Green Industrial Revolution."

"The technologies needed to prosper in an increasingly complex digital society will push the boundaries of IT embedded in our lives. It's not just about the defensive threat element of cybersecurity. It's cyber prosperity."

Nick Sturge MBE, Chair, TechSPARK & Strategic Adviser, Cyber Central Innovation Zone, Cheltenham Borough Council "The West of England is evidently good at quantum, deep tech, digital, and creative but we also have the edge of our historic strength. We retain talent and expertise in the region."

Eric Sanders, Senior Business Development Executive, Invest Bristol & Bath

Deloitte.

At Deloitte, we disrupt and deliver solutions every day to help our clients unlock possibilities and navigate complexities.

Day-to-day we are immersed in technology that disrupts the way we work, interact and which will ultimately shape our future. Innovation is no longer an option and as a global professional services and technology consultancy firm, we work with all types of businesses and public bodies to disrupt today for a better tomorrow.

Immerse – Deloitte, TechWorks and the South West

Proud to partner with Bristol Technology Festival,
Deloitte works in the heart of Bristol and prides itself on
delivering outstanding impact on the reputation of its
clients across the South West and helping to facilitate and
support change that will benefit the region's economy and
community.

Bristol is home to our technology hub, TechWorks is a phenomenal space where Deloitte's multi-skilled creative-engineering, design teams, technologists and digital experts, many of whom have security clearance, work with UK-wide and global technology consultants to build, test and deliver end-to-end solutions.

TechWorks is an integral part of the region's technology ecosystem, immersing its team with clients in public, private, finance and defence sectors to deliver a variety of specific disciplines including DevOps and Cloud, UX/UI design, product strategy and research, business analysis and delivery management.

Innovate - Digital skills

To deliver the technology of the future, Deloitte continues to innovate and invest in the next generation of talent. Against a backdrop of government commitment to level-up society, digital skills remain at the heart of the industrial strategy and essential for the region's economic growth.

We are passionate about EdTech and are currently working with the University of the West of England (UWE Bristol) to deliver its MSc in Financial Technology and strengthen the depth of knowledge already available.

Deloitte is also part of a consortium alongside the University of Bath working with the Institute of Coding and iStart/ Restart to deliver new digital skills bootcamps to over 200 people across the South West.

Championing diversity within technology, we are proud to sponsor Code First Girls' nanodegree - a 14-week coding course which provides employment opportunities for women. We're proud to have welcomed 30 women into our firm who have joined in technology roles in our first year of sponsorship.

It is initiatives such as these which will deliver critically needed digital skills such as cyber security, data science and software engineering in the future.

Disrupt - Future of tech

At the forefront of emerging technologies, we are continually disrupting to develop creative solutions to real-time issues. For example, the exponential growth of SpaceTech in the region is an exciting and has huge potential for the future.

The South West is already leading in this area and has the ability to build satellites, launch them and analyse the data. Working with drone delivery service provider Skyports and Vodafone, the Deloitte TechWorks team delivered a real-time solution to Argyll and Bute Health and Social Care Partnership to reduce the delivery time of urgent medical supplies in remote areas of Scotland from 48-hours to just 30 minutes through the utilisation of unmanned drones.

This project is a powerful example of not just how drones could bring communities and wider society together in the future, but also what can be achieved through collaboration and using a range of technologies to deliver

a tailored solution.

We believe in a tech-enabled future. To find out how technology can help your business can use tech for good, connect with Sarah Kruger in the TechWorks team, skruger@deloitte.co.uk





Empowering Innovation In High-Assurance Environments

CoreBlue offers world-leading technical expertise and custom software development for complex technology projects in high-assurance environments. Providing early-stage consultancy & advisory services, specification building, technology audits and well-rounded delivery teams to conduct end-to-end planning, delivery and maintenance of complex high-assurance technology projects. CoreBlue bring speed, agility and expertise to projects where security, quality and risk management are non-negotiable.

Why the South West, and what next for the region?

As this report highlights, strategically, the region is extremely well placed to deliver world-leading technology products and services. There is exceptional existing capability along with several outstanding universities providing the next generation of talent. Through our placement and graduate schemes, we're investing in this next generation – those who will make change for years to come.

Economically, the technology sector is critical for the South West, providing high-quality jobs and facilitating business investment. CoreBlue anticipates over 45% of its revenue will result from international export during 2022. This is representative of a world where production is not always physical and geographical boundaries are traversable. I urge local and central government to continue to invest in the region's infrastructure for the future and allow industry to continue to thrive through connectivity investment and the provision of more agile, modern and centrally located workspaces providing the facilities businesses need in a hybrid working world.

What's Ahead?

The right technology can be truly transformative for organisations and their customers. To some extent, we've seen transformation come slower in high-assurance environments such as banking, insurance, healthcare and the public sector, to name a few, as change is more cumbersome. With these same environments facing more pressure than ever to deliver the right technology to their customers, some of this pressure from the likes of technology startups and disruptors, established organisations around the globe must invest in technology to remain competitive.

Technology can completely change how organisations interact with and service customers, opening up new services and ways of working which would be otherwise impossible. UK government research shows that servicing customers digitally not only provides services which are quicker, simpler and more secure, but can also create huge organisational savings. The UK government estimate billions of pounds in cost reductions as a result of technology investment – technology can create win-win outcomes for organisations and customers, a symbiotic relationship that must be invested in and 'done right'.

Longer-term investing in, and working alongside, schools to encourage diversity and inclusion within technology are essential, along with continued focus on positive environmental impacts. This is aligned with CoreBlue's own continued investment and commitment to diversity, inclusion, and environmental initiatives to ensure we have a net positive impact in all areas.

In a world where groceries can be delivered in 10 minutes, but an ambulance can take up to 3 hours to arrive, it is important we innovate, not just in services people want, but in services people need.

From our innovation to rapidly develop a live-teaching platform to allow educators to deliver lessons remotely, when students couldn't attend lessons physically, to developing mobile and internet banking applications for our clients in Africa, to open up access to finance; CoreBlue will play its part to ensure the South West continues to be at the forefront of an ever-expanding marketplace that can help shape the world we all live in.

In the next few years, we will see which organisations led through technology and those which became obsolete. Our vision is to see the region come to the forefront and become the technology production powerhouse, which is within our grasp, leading the revolution globally and ensuring our partners and clients are on the right side of change.

To discuss how to use technology to transform your organisation or anything else above please contact Lewis Boyles-White, lewis@coreblue.co.uk, CEO, CoreBlue.



Startup & Scaleup Ecosystem

Key findings

- The South West is an increasingly attractive location for startups and scaleups
- Bristol is one of the UK's most impressive startup clusters, and is the primary hub in the South West
- Universities and corporates in the South West are actively supporting startups
- There are specific initiatives supporting and encouraging more startups in the South West

The Digital sector, and to an extent the broader tech sector, is well represented across the South West by dedicated groups including TechSPARK (Bristol), Software Cornwall, Digital Plymouth, Tech Swindon, Digital Somerset, Silicon South, Tech Exeter, Torbay Hi-Tech and Photonics Cluster, and Digital Somerset. These organisations are all actively engaged with Tech South West, reflecting its focus on the digital elements of the tech sector.

The outlook for startups in the South West appears to be very positive. Last year, Tech South West conducted a survey of the regional startup scene, with 72% of respondents saying it was either good or very good, and this number increased to more than 90% when respondents were asked about expectations over the next 5 years. The South West has also been found to be an attractive location for early-stage businesses. Previous research has highlighted the South West as the best region to start a new company in the UK, finding that a business built in the South West is 17% more likely to have survived after 5 years than if it were based in London. The lower cost environment is one of the key drivers for this, as it gives startups a longer runway.

With the nature of tech and the different sub-sectors within tech, early-stage businesses can have distinctly different requirements. For example, Digital firms typically start smaller and may not require office space, and their physical presence needs have reduced both during and post-pandemic. However, firms present in sectors such as HealthTech, Deep Tech or MarineTech will often need labs or facilities to operate. Additionally, unlike Digital firms, these firms may choose not to follow an MVP route due to how expensive and time consuming it might be.

Bristol is home to one of the UK's most impressive startup clusters and is the primary startup hub in the South West. With two universities and numerous high-growth, private businesses, it has been named the fourth-most-popular UK city for startups outside London. Bristol's startup ecosystem has benefitted substantially from innovation grants, and startups in the city have collectively secured 280 grants since 2011. Of the 111 recipients, 26 have been awarded to university spinouts.

The city is also home to several hubs which make up the heart of the startup and scaleup scene, such as Engine Shed, Future Space, ScienceCreates, Runway East, DeskLodge, Origin and Bristol & Bath Science Park. These locations are high profile, but it should be noted that startups and scaleups don't always base themselves in dedicated hubs or in cities. Successful and fast-growing businesses in remote and less populous areas can have a significant positive impact on the locations within which they evolve as they create employment and economic prosperity.

The universities and corporates are actively providing support to startups and are actively involved in many of the aforementioned hubs. SETsquared, an enterprise partnership comprising of leading universities (Bath, Bristol, Exeter, Southampton, Cardiff and Surrey) has secured funding from the Government's innovation agency and Innovate UK to help accelerate the growth of tech firms in the region. The funding will also help run the Regional Angel Investment Accelerator (RAIA) initiative, which should boost the startup ecosystem. SETsquared is a tech incubator, rather than a university incubator, and caters for scaleups and larger firms as well as startups.

⁵ Tech South West Annual Survey (2021)

⁶ https://sciencecreates.co.uk/news/it-takes-a-city-to-raise-a-start-up/

Funding from the European Regional Development Fund (ERDF) and the University of Exeter Enterprise Zone has enabled the expansion of the University of Exeter's business acceleration offer (which is provided by SETsquared Exeter). This expansion allows North Devon based startups and early-stage businesses to access business support and acceleration services offered by the university and collaborate with regional hubs. SETsquared and the University of Bath have also launched a new business support programme aimed at small and medium sized enterprises (SMEs) in the West of England to help them innovate and develop sustainably.

Future Space at UWE Bristol has been another successful university-led initiative to support innovative firms. Since opening in 2016, on-site businesses have benefited from more engagements with UWE, the use of specialist equipment at the university and funded support through programmes such as the Health Technology Accelerator Programme and RIFBristol, which is part of the £1m ERDF-backed SABRE programme. UWE Bristol also runs the Launch Space incubator, which provides a home to mostly graduate led early stage innovative startups.

There are specific initiatives aiming to encourage more startups in the South West in specialist areas such as Quantum. For example, University of Bristol has relaunched its pre-incubator programme in a bid to help create more Deep Tech startups. The QUEST programme, delivered by the QTEC team, provides training, skills and support to researchers to commercialise their Quantum businesses. These firms have raised over £57m and created over 175 new highly skilled jobs in Britain. Tech South West launched its own Tech South West StartUp Studio programme, the only virtual accelerator for the whole region in 2021.

Insights from stakeholder interviews told us there is a need for more support for businesses run by minority groups. TechSPARK, Engine Shed and SETsquared are working towards resolving this through the initiative SPARK School which offers a comprehensive course for minority ethnic groups and women looking to start a business. Created using a grant from NatWest's Skills and Opportunities Fund, the course guides members through the planning and finance management phase whilst helping them pitch their ideas and prepare for growth.



Stakeholder Perspectives

"Ihrough a banking lens, the earlier we engage with tech entrepreneurs and go on the journey with them, the better. For example, at NatWest we have built a "University Spin Out Service"; we give a named relationship manager alongside Business Support add-ons built for early-stage founders but most importantly this allows us to get a deep understanding of the business model and strategy at a critical point in their journey and support them throughout their whole entrepreneurial lifecycle."

Louis Spencer, TMT Lead, South-West, NatWest Commercial Banking

"When you go to the Job Centre, they do not send you to start your own business. They pressure you to get a job. No one is telling you that you can be creating jobs. We need to encourage people to think differently. You might be creative or diverse. Just knowing that you're different makes a difference. If people decide to do something different, then we'll have a market."

Jabo Butera, Co-Founder and Managing Director,
Diversity Business Incubator

"We've recently been having great chats with a firm in the cyber cluster in Cheltenham and I think this is an area that needs exploring. There is a link between cyber, Agritech and food tech because so much tech being used in the food supply chain that there are a lot of opportunities for cyber attacks"

Sarah Carr. Head of Farm491

"There is an opportunity for government to work with the private sector and Porton Science Park (PSP) and its campus partners recognise this. It is not necessarily about innovation because much of what Dstl is doing is long established and its engineers are all part of the MOD. It's recognising the drivers, the agility and the experience of markets that the private sector has compared with the public sector and so I think the two can actually work really well together to forge and exploit new opportunities and especially in Tech.

Mutamba McCormack, Site Operations, Porton Science Park

"Experience of founding and building a company is incredibly important, especially at the early stage. You need to have that founder empathy and really understand all the things you need to be doing. I always say that with early-stage companies it's more about knowing what you shouldn't be doing that is important."

Harry Destecroix, CEO & Co-Founder, Science Creates Incubators

"The startup scene around climate tends to be fairly nascent at the moment, but it will grow. The data and the research that is resulting from the work that we do with the University of Exeter is very open, and startups and entrepreneurial initiatives can work with the data."

Charles Ewen, Director & CIO, Met Office

"Nortel relocated away from the area in 2002, leaving 5,000 highly skilled engineers within Torbay. A large proportion of Nortel staff decided to remain within the area, and many decided to create their own tech companies focusing on various processes associated with Nortel's telecommunications systems. As a result of this organic expansion, I believe Torbay is now the most densely populated photonics and microelectronics cluster in the UK."

Wayne Loschi, Centre Director, EPIC

"Startups now are getting more creative. They're going down the crowd-funded route. We also have a few going into EIS type funds. There seems to be more money reaching down from early-stage VCs into the seed territory, and much more money than there used to be."

Mark Corderoy, Bristol Robotics Lab

"I am a part of this group called Tec Girls, which works towards getting more girls into STEM, and I'm totally blown away with what I get to see every week - our young entrepreneurs are brilliant."

Melissa Thorpe, Head of Spaceport Cornwal



Talent

Key findings

- The competitive tech labour market is inflating salaries
- The impact of a shortage of expertise is significant for startups
- The South West is well positioned geographically to attract the senior talent it requires
- Colleges are exhibiting strong business engagement and providing courses

The South West is prospering in terms of its economic activity. The region is home to 8% of the UK's population and 9% of its workforce. However, in the tech sector, demand continues to outweigh supply, a challenge that is reflected nationally. For example, in the South West, tech job vacancies rose 12% in June 2021 alone, 7 contributing to the inflating tech salaries in the South West of 4.5% between 2020 and 2021.8

Our conversations with industry stakeholders left no doubt that salaries are rising in the South West. Remote working has had a significant impact and organisations from outside the region are now increasingly able to target South West talent. Some organisations revealed that they are using the offer of hybrid/ flexible working to compete for talent as it appeals to those looking for a balance between face-to-face interaction and the convenience of working from home. With projected growth set to create some 125,000 roles in just five years, tackling the talent issue is the biggest challenge faced by the region's tech sector.

We also identified demand for more senior level tech expertise to support startups and scaleups, something which has come under increased pressure due to the growing number of larger tech firms that are able to offer greater incentivisation. There is a growing requirement for experienced non-executive and C-suite industry expertise to join businesses as they scale up. However, the South West's reputation for quality of life positions the region well to be able to attract such talent. Factors such as the milder climate, landscape and lower pollution levels all contribute to the high number of retirees that relocate to the region.

The South West is home to 14 universities, with almost 170,000 students, 11% of which are studying Technology and Engineering related courses, a higher proportion than when compared with the UK's 7%. Universities in the region have also increased business engagement within the sector. The University of Plymouth provide an example of this through the Google Tech Stars event a workshop competition for startup idea generation.

With such an impressive output of tech talent (57% higher than the national average), it is unsurprising that a number of the universities have a strong national and global outlook along with ongoing relationships with major brands like Microsoft and Google. Stakeholder discussions also highlighted a need to educate students about the regional tech scene and the opportunities that lie within it. A challenge that will require the tech sector to discover the most effective interface/ channel that will help to strengthen engagement with both universities and students.

The focus on research by the universities is seen as a real strength of the region. This research capability aligns with the capabilities of the South West's specialised sectors such as MarineTech, Climate, Data Science and AgriTech, and is an important aspect of research and innovation activity, as covered in more detail in the next section of this report.

⁷ https://technation.io/jobs-and-skills-report-2021/#levelling-up

⁸ https://technation.io/jobs-and-skills-report/#uk-regions

⁹ https://www.hesa.ac.uk/news/27-01-2021/sb258-higher-education-student-statistics/subjects

In the sub-regions without universities, higher education colleges meet the requirement for tertiary education. In fact, many colleges across the South West were widely praised in our discussions with industry stakeholders. This group, which includes many accredited higher education providers, is actively working with industry to generate better equipped workers. Colleges and the post 1992 'new' universities are known for a more practically oriented syllabus, and this continues to be the evidenced as the skills requirements of the modern workforce evolve.

Weston College is one of the UK leaders in implementing the new 'T Level' qualifications, combining academic education and industrial placements across subjects on digital, design and development. The West of England Institute of Technology (part of Weston College Group) has developed the 'Certificate of Future Technologies', some of which is being delivered by UWE Bristol, and is offered for free of charge to eligible individuals. Another highprofile initiative in the West of England is 'Bristol Talent', which is a collaboration between the City of Bristol College, South Gloucestershire and Stroud College and provides employers with an extended engagement with 7,000 vocational learners and 12,000 adult learners. with the goal of bridging the skills gap between the next-generation workforce and the region's employers.

Created in September 2019, the South West Institute of Technology has also been key to developing major infrastructure and technical training across the South West. It is a collaboration between a number of partner organisations, each investing in the development of state-of-the-art facilities for

training in technical subjects to create Britain's next generation of highly skilled technicians and engineers. Its presence includes a digital and data centre at Exeter College, facilities at Petroc College campuses across Devon and a Data Science facility at University of Exeter.

We can also see considerable activity further south. For example, Exeter College offers A Levels, BTECs, Apprenticeships and T Levels. The college also runs a 12-week programme of part-time digital marketing bootcamps and has launched a range of free programmes for adult learners (18+) to retrain in digital skills. The Cornwall College Group provides a further example through campuses based in Camborne, Newquay and St Austell as well as specialist land-based and marine partner colleges. Cornwall College is also working with the software development company, HeadForwards, to help shape a degree-level computer science course.

The South West benefits from national funding to support education. For example, the Heart of the South West LEP has secured £1.8m in funding from the Department for Education's National Skills Fund to expand its current Skills Bootcamps to the South West. The Heart of the South West Digital Skills Partnership, was one of the first in the UK, launching in June 2018, and bringing together the public, private and third sector to tackle digital skills gaps in Somerset, Devon, Plymouth and Torbay. Technical Skills Bootcamps are also being offered to adults over the age of 19 free of charge. The first wave of this training in Devon and Somerset saw around 1,000 adult learners take part in diaital skills courses.





Stakeholder Perspectives

"In any sector, the talent becomes key. If you want to be a world class location within a sector, you must be able to attract world class talent. That's not just about the jobs and learning opportunities; it's also about the living environment and the cultural environment. It needs to be a great place to live and work and play."

> Nick Sturge MBE, Chair, TechSPARK & Strategic Adviser, Cyber Central Innovation Zone, Cheltenham Borough Council

"We hire across the full range of skill and levels. Our academy takes 7-10 people in Bristol 3 times per year. We're looking to take 'return to workers' and also to grow beyond tech into other areas. 30% of our Bristol office joined via the academy. We also take on apprentices. We took on two in Bristol this year and plan to take on in Exeter too."

Stephen Reed, Head of Delivery, BJSS

"I don't need many dedicated data scientists, I need engineers, specifically information engineers. I need people with realistic expectations about what they're going to be doing. For every academic computer scientist PhD, I need 100 or maybe even 1000 people with composite skills."

Charles Ewen, Director & CIO, Met Office

"The quantum sector has found there are not enough talented PhD students coming through their programmes, so they are having to upskill other physicists and engineers with quantum technology knowledge."

Kimberly Brook, Programme Manager, QTEC

"We need to inspire the next generation to launch exciting STEM education and career opportunities in diverse tech areas, including Data Science, Digital Engineering, Environmental Intelligence and Immersive Technologies."

Conrad Gillespie, Centre Manager, South West Centre of Excellence in Satellite Applications through technical qualifications and apprenticeships, creating better access for work. Bridgwater and Taunton College has had millions of pounds invested to develop their engineering facilities and create the apprenticeship training needed for talent and skills across future technologies."

Aimee Skinner, Innovation Manager, Future Space Bristol

"Interventions are needed to address the skills gaps that will emerge in a few years are challenging the tech sector across all regional clusters. One route is to try to ensure there is equitable access for everyone, if there was even double the number of women moving from different areas into tech roles, there wouldn't be a talent crisis in a few years."

Marty Reid, Director, SETsquared Bristol & Engine Shed

"One thing we've got to create is a mechanism to get the young bloods visible at the board level. We have a lot of technologists managing the business, but they may be better placed as chief technical officer, appointing experience C-suite FDs and MDs to help take the business to scale."

Ian McFadzen, CEO, Plymouth Science Park

"There is an insufficiency of ethnic minorities in the innovation ecosystem and we need more diverse entrepreneurial support. Additionally, the male female split in the tech sector could be better."

Frances Tanner, Business Community Manager, SETsquared Exeter

"It would have a huge impact if we could create a significant number of trained people across the South West each year. If this was in the hundreds, thousands or even tens of thousands per year, then you would be attracting a lot more businesses to the region, because there would be evidence of the quantity of talent available."

Toby Parkins, Founding Director, HeadForwards

"In Devon and Somerset, where I'm primarily based, I go into colleges, universities, training centres, manufacturers.. and I see some amazing componentry training, skills, and innovation. I'm just not sure that we're banging our drum quite loud enough, because we have some very skilled and advanced education and training in the South West."

Jonathan Davis, Project Development Advisor, Gravity

"We need to address future skills gaps and start with education in schools. By getting businesses in front of the students and teachers, and addressing the curriculum, we can retain our strong talent pipeline."

> Tatjana Humphries, Senior Inward Investment Executive, Invest Bristol & Bath

"South Devon College is based on the site where Nortel was previously sited. This now includes a new Hi Tech & Digital Centre that will produce the skills needed to support the future growth of the local cluster. EPIC works closely with the college to inform students about the lucrative career opportunities available within the local tech economy. Initiatives includes Open House events at EPIC for students and encouraging experienced tech experts to showcase the exciting technology that is developed on our doorstep."

Wayne Loschi, Centre Director, EPIC

Research & Innovation

Key findings

- There is a strong presence of Research & Innovation activity across the South West
- There is a strong focus on the environment and sustainable technologies
- The universities are central to the region's research and innovation activity
- The focus of research and innovation activity is driven by core competences and/or geographical factors

The South West is home to multiple research-based universities and facilities, giving the region a strong presence of research and innovation activity.

Leading universities like the University of Bristol,
University of Exeter, and the University of Plymouth are internationally recognised for their research and innovative capabilities, and facilities such as the National Composites Centre, Future Space, Exeter Science Park, Spaceport Cornwall, and Porton Science Park help startups and scaleups thrive and attract investment into the region, while enabling greater collaboration.

When comparing the South West to other regions, we have observed a strong focus on research and innovation activity relating to environmental sustainability, with fields such as climate, water, sustainable engineering, and sustainable marine technology all featuring amongst the examples we have become aware of during the course of conducting this research.

As one would expect, the role of the region's universities is prominent in the research and innovation activity across the South West, both in terms of standalone research facilities and industry collaborations.

Bristol is home to many Deep Tech startups due to the University of Bristol's engagement into research and innovation activity. Startups such as Graphcore, Carbometrics and QLM, are just some of the examples of Deep Tech within Bristol. Furthermore, the university launched QUEST, a six-month programme for UK university researchers who are looking to commercialise the Quantum, Engineering and scientific technology sectors. Since 2016, QTEC has supported the 28 new companies with a combined valuation greater than

£120 million, after raising over £57 million and creating over 175 new highly skilled jobs.

The University of Exeter is undertaking a Digital Solutions programme, which uses environmental data to create innovative solutions and services that will deliver social, economic, and environmental benefits across the UK. A digital solutions hub is being developed by the Natural Environment Research Council (NERC) and a team of researchers. The University's Streatham Campus will also host the Centre for Resilience in Environment, Water and Waste, who will conduct research into the provision of safe and resilient water services in the UK and internationally.

Exeter Science Park hosts a range of STEMM companies, and is also the home of the Met Office and SETsquared Exeter. The park promotes research and development in the region through their Environmental Agency and a new £5m STEMM centre.

Brixham Laboratory is part of University of Plymouth. It was donated to the University by AstraZeneca in 2014 and is now home to over 30 organisations across industry sectors such as MarineTech, Photonics and Business Services. Many tenants collaborate with the University of Plymouth through grant funded research, knowledge transfer partnerships and by giving employment opportunities to students and graduates.

Collaboration is a key part of innovation. Different sectors coming together can play a significant role in enabling innovation to happen. The South West has an abundance of science parks and tech hubs where this can happen, and there are several examples from our research.

The University of Plymouth has developed the South West Interdisciplinary Technology Consortium for Health and Care (SWITCH), an interdisciplinary cross-sector consortium based around HealthTech innovation and implementation. SWITCH provides greater opportunities for collaboration and aims to incubate and export innovative solutions in HealthTech.

The University of Exeter has collaborations with organisations such as the Met Office and South West Water. The university works with the Met Office on Climate research, Atmospheric research, and elements of Computational Science research, while its work with South West Water includes research in Data, Artificial Intelligence, and Machine Learning solutions for waste water management. South West Water has also signed a 25-year partnership with the university, confirming over £20m of funding to help develop The Centre for Resilience in Environment, Water and Waste (CREWW).

There are also a number of key industry-led initiatives, including Science Creates, National Composites Centre (NCC), and Porton Science Park. Science Creates in Bristol has two incubator facilities which provides firms with access to standalone research facilities. NCC (also in Bristol) was established to support the deliverables of the UK Composites Strategy, ensuring that UK companies and academic institutions were brought together to develop new composite materials, technologies and processes. It works with firms around the world to accelerate the adoption of high-value, sustainable engineering solutions in Composites. It is funded by central government, with about a third of its income coming from grants. Another notable facility is Porton Science Park, in Wiltshire, which focuses primarily on research and development for Health, Life Sciences, and Pharmaceuticals.

In addition to the current facilities, there are some significant new developments planned across the South West, in areas such as Digital futures and SpaceTech.

The University of Bristol has secured planning permission to convert two former industrial buildings into a new hub for research facilities. This hub plans to open in 2023 and will create a facility for the £100m Bristol Digital Future Institutes (BDFI), and MyWorld, a £46 million University of Bristol-led programme. The university already has the largest robotics department in Europe, and the new hub will include the world's first "Reality Emulator".

The UK Space Agency is investing over £600,000 in the UK's space clusters, with 10 organisations in the UK getting a boost. Cornwall Development Company is receiving funding to hold workshops and events across the UK to stimulate research and innovation. They are also tasked with enhancing the space proposition for the South West. WECA is also receiving £97,500 to create the West of England Space Strategy. The funding will help to raise the profile of the South West's Space sector, attracting investment into the region.

More than 40 businesses, universities and government bodies are collaborating to create the Ocean Futures Programme, which aims to create a blueprint for the region's Marine economy. It will focus on digital innovation, sustainable maritime technologies and marine autonomy. The University of Plymouth, Plymouth City Council, Maritime UK South West, Plymouth Marine Laboratory and Thales Group are amongst those involved.



SPONSOR CONTENT

EXETER University of Exeter

The University of Exeter is a research-intensive higher education institution that combines world-class research with excellent student satisfaction, from our campuses in the South West of England, in Exeter and Cornwall.

We are one of the very few universities to be both a member of the Russell Group and have a Gold award from the Teaching Excellence Framework, evidence of our established international reputation for excellence in both teaching and research. Our success is built on a strong partnership with our students and a clear focus on high performance.

The University has over 25,000 students from 130 countries and over 125,000 alumni in 183 countries providing our academic community of staff, students and visiting researchers with a truly global experience and a diverse, inclusive environment. The University has campuses in both Devon and Cornwall, in Exeter, Penryn and Truro. Our strategic partnerships across the world bring together leading academics and the resources of outstanding universities to deliver transformative impact in key global challenges, including a major new focus on Environmental Intelligence and Green Futures.

At the University, we stand together to create solutions to the environment and climate emergency. We are home to the UK's five most influential climate scientists (Reuters Hot List) and for more than twenty years have been leading the way in interdisciplinary

research to better understand and tackle environment and climate change. By mobilising our expertise in research and education we are accelerating global action in partnership with governments, businesses and communities.

The University is continuing to invest in regional Tech innovations and is a key partner in the SW Institute of Technology, SW Satellite Applications Catapult, Exeter Science Park and stimulates innovation. entrepreneurship and business-spin outs through our work as SETsquared Exeter. We deliver a number of Tech courses at undergraduate and postgraduate level including a growing suite of Degree Apprenticeships where the industry knowledge and expertise of employers, combined with the hands-on experience from apprentices, gives the University invaluable insight to shape our programmes, ensure they meet industry requirements and standards and contribute to our ongoing research. Current Degree Apprenticeships include, Digital and Tech Solutions (BSc) and Data Science Professional (MSc).

Our most recent analysis of the economic contribution of the University (2016) demonstrated that the University of Exeter generated £1,172 million in output and supported 11,430 FTE jobs in 2015/16 and made an overall contribution to UK Gross Value Added of over £630m.



Stakeholder Perspectives

"Porton Science Park (PSP) offers its tenants, 24/7 access and I think this has made a huge difference. I've seen the rate of growth PSP's manufacturing and R&D-focused companies are experiencing as well as the employment opportunities they're creating at Porton Down and purely based on this distinction compared with other science parks which may limit access through defined opening and closing times. Strategically, 24/7 access has made a big impression on the campus (PSP's campus partners also operate 24/7) and it's interesting to see what happens when you remove access restrictions – it's hugely liberating!"

Mutamba McCormack, Site Operations,
Porton Science Park

"You've got to bring different sectors together to allow innovation to happen. Also, I'd like to see greater investment in life sciences, biosciences, photonics, additive manufacturing... Digital can be very mobile but I want to see more labs, workshops, anything that enables technology."

Ian McFadzen, CEO, Plymouth Science Park

"I think there's a wealth of innovation and creativity in our region. If you go as far down as Plymouth and then up to Exeter to and then into Taunton and Bridgewater, you've got the nuclear college then you go up to Bristol, you got the composite centre, Bath University and the advanced vehicle manufacturing agenda. So there's just a really, really solid cluster of highly educated and skilled people here and across to South Wales."

Jonathan Davis,
Project Development Advisor, Gravity

"Exeter is well-known for its climate science with the Met Office as well as the UK's top five most influential climate scientists at the University of Exeter. This is reflected at Exeter Science Park in the development of net carbon-buildings, the University's Centre for Future Clean Mobility and start-up companies developing carbon capture and other technologies. Our growing health and life sciences community has made a defining contribution to the UK's COVID response and strengths in artificial intelligence and big data underpin innovative engineering products and services."

Dr Sally Basker, CEO. Exeter Science Park

"R&D intensive businesses are vital to economic development. They're vital to social inclusion and giving people more meaning in life. Every job created in an R&D intensive business creates around five jobs in the broader economy."

Stuart Brocklehurst, CEO, Applegate Marketplace

"We feel that bringing established players, universities and startups together, gives a programme the best opportunity to share knowledge, information, build relationships, and help corporates learn the skills about how to buy, and help startups learn the skills to sell to corporates, and create more long lasting relationships."

Jon Hope, Director, Barclays Eagle Labs

"If you list the things you'd want for a rich cyber-tech ecosystem, you wouldn't end up a million miles from what Western Gateway's got. The application of cyber technologies is in agriculture and food systems, financial services, it's in critical national infrastructure and renewable energy. Cyber then becomes a pervasive requirement across so many sectors."

Nick Sturge MBE, Chair, TechSPARK & Strategic Adviser, Cyber Central Innovation Zone, Cheltenham Borough Council



Funding

Key findings

- The new £200 million regional fund could represent a catalytic opportunity for investment activity in the South West
- The South West accounts for the largest proportion of the UK's lending to SMEs outside London and the South East
- Bristol businesses are the primary recipients of investment funding raised in the region
- The investor community in the South West does not always have direct experience of the tech sectors

Funding is a key component of the growth of businesses across all sectors, but particularly in tech where upfront investment in areas such as R&D, technology development and resourcing is required. Funding can be obtained via debt finance, equity investment, or grants, and this analysis has looked at each of these within the South West.

Anecdotally, our analysis found that funding, particularly equity funding, is seen as essential for high tech growth in the north of the region centred around Bristol but less so in the south, where funding seems to be sought via other routes, such as grants. It has previously been reported that up to 85% of investment leaves the region, so there is a big opportunity to redirect that investment back into the South West.

Recent months have seen a major announcement regarding funding in scaling the region. The Government announced a £200m regional fund for the South West, as part of its plan to overcome regional imbalances, specifically by providing funding for SMEs and micro businesses.

This fund will follow on from the £40m Cornwall & Isles of Scilly Investment Fund, launched in 2018, which was brought together by a combination of European Regional Development Fund (ERDF), the LEP and Government grant funding, creating a fund which provides debt and equity for small businesses across the region.

The new fund is based on the success of similar schemes in the North of England and Midlands. It is expected to have a catalytic effect on investment activity in the South West. This is perhaps illustrated by the fact that, outside London and the South East, the South West has been found to have the third highest percentage of the UK's scaleup companies (9.4%), sitting behind the North West and West Midlands. 10

The SETsquared programme operates across universities in Bristol, Bath and Exeter, and has been hugely successful across the South West. Since its launch in 2002, SETsquared has supported over 5,000 entrepreneurs with £2.72bn investment, with an estimated economic impact of £8.6bn, while creating 20,000 jobs. By 2030, this is forecasted to reach £26.9bn. Innovate UK EDGE, a programme led by the UK's Innovation Agency, launched in January 2021 and has helped South West businesses raise more than £27m in equity investments and loans, and more than £13m in grant funding. Over 540 businesses in the region accessed this support in 2021.

Research has shown that 45% of all SMEs in the UK use external debt finance, while 70% use some form of funding for their business.¹¹ Figures from UK Finance¹² show that 11.7% of the UK's overall lending is in the South West, the highest outside London, and the South East. The use of finance is growing, and in Q2 2021 61% of finance users said they were using more finance now than pre-pandemic, with 36% borrowing for the first time.¹³

In terms of equity investment activity, Bristol is the region's most popular city for tech investors - with local businesses raising £309m in 2020, making it the third largest UK city for tech investment. Significant investment rounds included Immersive Labs, a Cybersecurity training company which raised £54m at Series C; Ultraleap, a haptics company, which raised a £36m Series D: Moneyhub, a FinTech, which raised £13m in a late VC round; and Perceptual Robotics, which raised £1.6m. CytoSeek, a University of Bristol HealthTech spin-out also raised a £3.5m seed round, In 2021, Amadeus Capital, a VC company invested over £292m, including £116m in the Bristol-based unicorn Graphcore. and other 19 companies such as QUIBIM, various auantum businesses, and V7 Asset Management. Another notable Bristol-based investor is the venture fund operated by Science Creates, which makes most of its investments into South West companies. Science Creates Ventures EIS Fund 1 offers investment into early-stage deep tech companies, with a focus on technologies that have the potential to improve healthcare, quality of life, and the environment.

It is important to note that those investors with a base in Bristol often cover the wider South West. Business Growth Fund (BGF), for example, covers the

¹⁰ https://www.ukfinance.org.uk/news-and-insight/blogs/understanding-sme-finance-regional-difference

¹¹ BVA BDRC SME Finance Monitor (2021)

¹² https://www.ukfinance.org.uk/news-and-insight/blogs/understanding-sme-finance-regional-difference

¹³ BVA BDRC SME Finance Monitor (2021)

South West from its Bristol base, and most of its deals are outside Bristol. BGF has made investments in 22 businesses in the South West, only three of which were Bristol based organisations. ¹⁴ Overall, 73% of BGF's UK deals in 2021 were outside London and the South East, and its South West team deployed over £115 million of equity funding. ¹⁵

It has been evidenced that investors are usually based within two hours of the firms they invest in. In a region as geographically vast as the South West this clearly presents a challenge. In this sense, there has been some positive impact from Covid, as post-pandemic levels of funding and investment have increased in the South West. This suggests a significant future opportunity for the region, as investors appear to be increasingly open to engaging virtually.

The angel investor community in the South West is centred around Bristol, with Bristol Private Equity Club (BPEC) a major constituent; boasting 100 members and having invested over £11m in 30 companies over the past 5 years, including £3.1m in 2021 across 17 deals. Investments are made predominantly in Bristol and South West businesses. Investments have included firms such as Inductosense, Rovco/Vaarst, Cytoseek, Okko Health, Anaphite, Space Forge, and QLM.

Further south into the region, the angel investor community is developing, with Michelmore's MAINStream Angel community launched in the latter part of 2020, and Dorset Business Angels providing investment opportunities for Angels in the East of the region, and typically helping businesses to raise £50-250k. It hosts four pitch events per year, held in January, April, June and October, which are either hosted in Bournemouth or virtually via Zoom.

London-based Newable Ventures has raised £10m from British Business Investments – a part of the British Business Bank – primarily for equity investment alongside Bristol Private Equity Club (BPEC). £924,000 of that fund has been deployed so far, with a portion of that in South West based tech companies.

British Business Bank's wider Regional Investment Programme also received significant additional funding in the Chancellor's Autumn Statement, so we can expect further deployment of capital into the South West via this initiative. More than £66m has previously been lent to new South West businesses under the Government's Start Up Loans scheme, which is run by the bank, representing 11% of the £600m which was made available to enterprises outside London.

In addition to debt and equity funding, there are a number of grant-based initiatives and funds across the UK and the South West:

- Innovate UK to date has allocated £1.1bn in funding for the South West and has funded over 3,100 projects in the region.
- The Devon Net Zero Innovation Fund, an ERDF funded programme to enable collaboration between the University of Plymouth and Devonbased companies to develop new products or services for the low carbon sector.
- Businesses in the West of England, Gloucestershire and Wiltshire can apply to UWE Bristol's Innovation 4 Growth, a funding programme for SMEs.
- A Pop-up Innovation Centre, delivered by the Acceleration Through Innovation 2 (ATI2) programme provides office spaces and business support for Cornish businesses in Truro. The facility is available to SMEs and is led by the University of Plymouth and part-funded by the ERDF and Cornwall Council. The programme has provided support to over 350 businesses and awarded 29 grants to support innovation projects with a value of over £700,000 to date.

- Regional Angel Investment Accelerator (RAIA), an Innovate UK funded non-dilutive grant pot to match funds provided by Angels such as Bristol Private Equity Club is also available. The pilot scheme delivered £820k of grant funding across the South West and Wales, leveraging over £2m of Angel investment. The pilot scheme has invested £928k of grant funding across the South West and Wales, and with a second wave of funding committed, the programme has so far leveraged over £7m of equity investment.
- On a national level, Innovate UK's responsive Smart Grants programme offers innovative businesses the chance to secure up to £2m of funding.

Navigating the funding landscape can be challenging for businesses, especially entrepreneurs who may not have much experience or knowledge of the options available to them. Professional financial advisers, non-executive directors, business support groups, hubs/accelerators, and indeed investors themselves have a key role to play here.

An observation from discussions with stakeholders in the region is that the angel investor community will not generally have direct experience of the newest tech sectors. Tech firms in these sectors - especially at an early stage - can display quite different characteristics to other types of business, and therefore rely on the ability of angel investors to be able to assess the potential of business plans. There is an opportunity to enhance investor knowledge and understanding of tech-driven sectors.

Individuals working for private equity and venture capital firms often come from a corporate finance or large company background, so while they have a strong analytical understanding of the markets, they may not have first-hand experience of running startup businesses.

¹⁴ https://www.bgf.co.uk/regional-tool/

¹⁵ https://www.businessleader.co.uk/bafs-south-west-team-invests-over-115m-in-2021/



Tech in the South West: how a growing sector can keep getting better

They might enjoy high levels of investment and an enviable work-life balance, but tech firms in the South West corridor still need greater national and international exposure to take the region to the next level, says Louis Spencer, Technology, Media and Telecoms Lead, South West.

From green-tech, marine-tech and agri-tech to health-tech, life sciences and robotics, the South West of the UK has a rich array of technology sub-sectors and hubs it should feel proud of. The Tech Analysis Report 2022, created by Tech South West and Whitecap Consulting, and supported by NatWest, examined the potential – some untapped – this region can offer.

South West tech: in numbers

- a 168,000-strong Tech workforce employed in 17,500 tech businesses
- 19,500 Tech and engineering students studying at 14 universities
- the region makes up 6% of the UK's Tech sector

As the UK emerges from the pandemic, and as attitudes to work continue to shift, the opportunities enjoyed by tech businesses in the South West cannot be overstated. People will continue to seek a better work-life balance, will need a greater purpose than their pay cheque and will want to contribute to their communities. The South West's burgeoning tech sector offers this – but in 2022 and beyond, it needs help realising its full potential.

We see this in three key areas:

1. Startups and scale-ups need ongoing support

The outlook for startups in the South West appears to be positive. In Tech South West's 2021 survey of the regional startup scene, 90% of respondents rated the potential of the local tech ecosystem as "good" or "very good".

We know that the earlier we engage with tech businesses and go on the journey with them, the better the outcome. It allows us to tap into a deep understanding of the business model, strategy and founder drivers, so we can offer support through the entrepreneurial life cycle. Businesses in the early part of their life cycle need more support like this.

2. A stronger South West brand will help attract talent

The battle for talent in tech is raging all over the UK, and the South West is no exception. While it is true that the region's work-life balance is appealing, thanks to its enviable access to culture and leisure, the Tech Analysis Report 2022 found its vast size may currently put it at a disadvantage. The South West is a substantial corridor of the country and is geographically disparate, so it doesn't have the same industry identity as other parts of the UK, such as the North West. There are fantastic emerging and established tech opportunities — not just in hubs around Bristol and Bath but also further afield in Devon, for instance. People need to know this, and stronger geographical branding is needed.

3. Funding support for techs needs to grow

The report states that, outside of London and the South East, the South West accounts for the largest proportion of the UK's lending, with Bristol at the epicentre. Indeed, this figure will be helped by the government's recent announcement of £200m regional funding for the South West, aimed at SMEs and micro businesses. However, the investor community in the South West needs more experience of the tech sub-sectors, and we see a regional disparity in investor presence. We need to do more to attract early-stage equity funding to the region and bridge the "risk gap" that exists today. Being able to analyse the region's potential and propose solutions to these challenges is vitally important to helping the South West become the tech powerhouse it deserves to be. The Tech Analysis Report 2022 is one small step towards making this happen.



censornet.

The UK Mid-Market on Code Red

Hackers are shifting from "big-game" to mid-sized targets

The UK is a popular target for cyber-attacks. It is now the third most targeted nation by hostile states, according to cabinet minister Steve Barclay. In response laws are being reviewed to boost British business' cyber resilience. In February 2022, the UK's National Cyber Security Centre (NCSC) in partnership with the Federal Bureau of Investigation (FBI), National Security Agency (NSA) and Australian Cyber Security Centre, advised that hackers were shifting from "big-game" to mid-sized targets.

The State of the UK's Cyber Security Response

A study that investigated the state of the UK's cyber security response, published in March 2022 by Censornet, revealed that mid-market organisations in the UK suffered significant financial and operational damage as a result of cyberattacks in 2021. One in three (33%) mid-market organisations suffered an outage that knocked them offline for more than a day. Only half were able to prevent malicious attachments from reaching users' inboxes. Shockingly, one in five (21%) were forced to pay hackers to deactivate ransomware. As a result, the top wish for cybersecurity in 2022 was to see security vendors open up traditionally closed point products to enable an automated response to cyber-attacks.

Attacks causing major damage

The report identified that the UK mid-market was on Code Red. Despite concerted efforts to protect themselves, mid-market organisations continued to feel the sting of cyberattacks in 2021 - often due to cross-channel attacks, which only 37% of organisations felt they had the ability to prevent. These incidents were driven in part by the unwitting insider threat: 17% of all respondents reported serious attacks after employees opened suspicious or malicious emails, with that number rising to 28% for businesses turning over more than £51 million.

Ransomware also posed a particularly serious threat, with more than two thirds (69%) of organisations feeling unable to protect themselves against it. Of those that suffered a ransomware attack and paid the ransom, the average pay-out was £144,000, with 7% of those handing over more than £500,000.

Overcomplicated security driving high levels of stress
Given the damage, organisations are investing in large
numbers of point products to tackle their risk. The average
number of security products managed in a single
organisation stands at 24. As a result, on an average day,
716.4 cyber security alerts are generated. It means each
security professional has to investigate over 35.3 security
alerts every hour and has just 102 seconds to assess what is
a genuine threat.

'For the UK mid-market, the cybersecurity situation is serious,' said Ed Macnair, CEO at Censornet. 'The financial and reputational cost of cybercrime is rising, putting more pressure on overwhelmed professionals, who are tackling hundreds of alerts a day from siloed point products. Organisations must work smarter, not harder. Only when security systems work seamlessly together, faster than humanly possible, will we see the needle begin to move in the right direction.'

About Censornet

Censornet gives mid-market organisations the confidence and control of enterprise-grade cyber protection. Its Autonomous Integrated Cloud Security platform integrates attack intel across email, web, and cloud to ensure cyber defences react at lightning speed. For its millions of users globally, its Al-driven, autonomous solution is smarter, faster, and safer than is humanly possible. Censornet's clients include Thatchers Cider, Fever Tree, Radius Payments, National Portrait Gallery, and Hallmark Hotels.



Stakeholder Perspectives

"Thegreat news is the new £200m Fund for the South West announced in the Spending Review. The Bank is working with stakeholders and government to develop a Fund that will provide debt and equity to growing small businesses across the South West. Evidence from the Northern Powerhouse, the Midlands Engine and Cornwall is that it's not just the fund itself, but the impact it has on drawing more private investors around it."

Paul Jones, Senior Manager UK Network Team South West, British Business Bank

"In terms of startups. I think the quality level has been very high, but the quantity has been low. I do think we're on an accelerated curve though, and it's not going to be difficult to increase the levels of investment and get more local presence of investors."

Nick Sturge MBE, Chair, TechSPARK & Strategic Adviser, Cyber Central Innovation Zone, Cheltenham Borough Council

"I don't think the South West is as fully formed as other regions re access to capital (Angel through VC, PE and Debt). On VC; we've observed increased interest in the South West over the past 24 months with several high-profile equity tickets raised but you could make an argument to say it's still underweight in terms of deploying capital consistently in the region. We also do not yet have any specific interventions to support diverse founders access to capital but I know there is positive work and momentum taking place in this space right now."

Louis Spencer, TMT Lead, South-West, NatWest Commercial Banking

"Government continues to offer grants, business support and new investment funding streams to encourage innovation in engineering and technology and the MOD is at the heart of initiatives available to Defence Tech SMEs. At PSP, we can be the conduit to facilitate their access to the right schemes – and there are many schemes."

Mutamba McCormack, Site Operations, Porton Science Park

"We've had lots of start-ups and talent incubators for a while, but we also have had underdeveloped R&D infrastructure for SMEs and lack of local venture capital. We can now support more high capital intensive, impactful technologies and companies."

> Harry Destecroix, Managing Partner & Co-Founder, Science Creates Ventures

"Bristol & Bath both definitely helped because they have taken quite an entrepreneurial route to supporting small startups: get your angel funding, get your seed funding round, make a sale, and make some money. That's what people have got in their heads. That's not what Silicon Valley was about back in the day, absolutely not."

Charles Ewen, Director & CIO, Met Office

"Post-pandemic we have seen massive increases in funding received. There are a lot of Innovate UK grants, so grant funding and a lot of contract revenue coming in. There was also a lot of equity funding as well that came into businesses because of match funding for innovate."

Kimberley Brook, Programme Manager, QTEC

"It's been a challenge over the past few years to engage investors and get them to understand the space. One example would be we had a company who are in the livestock space. They went to market calling themselves AgriTech but couldn't raise the investment. They repositioned themselves as a FinTech and quickly managed to raise investment. But since Covid we have had more engagement from investors, and I have seen a few more specific funds for impact focused startups related to food, land and the oceans."

Sarah Carr, Head of Farm491

"We need to address the gap around funding, not just angel, or VC, but also general incentives."

Tatjana Humphries, Senior Inward Investment Executive, Invest Bristol & Bath

There is a gap and as such a very clear opportunity in the funding market to cater for pre-revenue startups."

Alex Craven, Head of Investment, Falmouth Uni-Launchpad

"We will continue to help businesses grow through funding the development and commercialisation of new products, processes, and services – this is already supported by an excellent innovation ecosystem across the South West, but we want to make our funding easier to navigate and encourage a wider demographic of applicants across the region. We also need to better align our national programmes to local innovation activities and work to reduce regional inequality – this means investments in long-term, sustainable local growth through innovation and supporting the advancements of local innovation clusters."

Layla Burrows, Regional Manager South West, Innovate UK



Regional, National & International Connectivity

Key findings

- The South West is home to many clustered organisations and hubs that promote connectivity across their cluster and subregion
- Wider collaboration across the entire South West is primarily limited to technology sectors
- Many institutions within the South West have important national links
- The South West's numerous worldclass capabilities form part of the UK's international competitiveness

The South West is home to many network and cluster organisations that promote connectivity across their regions. Tech South West works across the whole region, and works with hubs, science parks and clusters operating throughout the region including Digital Plymouth, Digital Somerset, Engine Shed, Silicon South in Dorset, Software Cornwall, Tech Exeter and TechSPARK. They play a key role in deriving connectivity within specific regions and technologies.

Many interviewed stakeholders identified examples of collaboration and opportunity within the region. For example, Plymouth and Exeter Science Parks enjoy a healthy and positive relationship which has grown throughout the pandemic. Within the South West, the SETsquared programme brings together

key stakeholders from Bristol, Bath and Exeter via its accelerator programmes and other initiatives.

SETsquared Exeter has also set up support and programmes at EPIC in Torbay and in Cornwall.

Connectivity has been found to be somewhat siloed between the north and south of the South West region due to logistical challenges and the diversity of tech strengths between the sub-regions. This is further influenced by geographical and geopolitical activity such as specific sector focused investment.

The South West is also home to many tech hubs that promote connectivity and collaboration within subregions. In addition to office and lab space, this can manifest itself in the form of accelerator programmes, innovation facilities, and event-based activities to support local businesses and stakeholder ambitions.

Earlier in this report we listed many of the key facilities in the region. Additionally, initiatives from individual organisations provide support to the tech community. For example, NatWest's accelerator programme has a national network of hubs, including one in Bristol. Similarly, Barclays Eagle Labs has a hub in Bournemouth, which is part of a growing national network.

There are many festivals and events, for example Bristol Technology Festival, Agile on the Beach in Cornwall, and the GAME>PLAY festival in Exeter that bring together people from all around the UK and promote greater connectivity within the South West.

Another hub for connectivity, VentureFest, is a sponsor led and funded program which stimulates the South's innovation ecosystem through key partners and influencers, via an annual Festival of Innovation, showcasing the region's talent and innovative capabilities.

Tech South West's annual awards, along with the Tech Sparkies, have become key showcase programmes for the region. Established during the pandemic, the Regional Tech Leadership Forum and regional Funding Advisory Board, are two more recent initiatives established by Tech South West supporting information-sharing and debate on key issues across the region.

The specialist world class and nationally significant capabilities that exist across the South West are part of the UK's national sector strength. MarineTech, Climate, Composites, Quantum, Life Sciences and Cybersecurity are amongst these sectors. Porton Science Park in South Wiltshire, for example, is one of six Life Science opportunity zones conferred by the government and promoted internationally by the Department for International Trade.

Another example of international links is the GW4 Alliance, a consortium of four research-based universities (University of Bristol, University of Bath, Cardiff University, and the University of Exeter). This is the only research alliance to collaborate across England, and is aimed at enhancing research collaboration, addressing social and economic challenges, and inform policy at national and international levels. The consortium is a strong example of local partnerships that have regional and international influence. GW4's current focus is directed towards climate resilience and antimicrobial resistance. It also helps develop other communities aimed at research and innovation, including the UK's largest water research consortium, The GW4 Water Security Alliance.

Stakeholder Perspectives

"SETsquared has got a tremendous reputation and has been at the heart of Bristol and the South West's success for many, many years now. For a successful ecosystem you need a sound infrastructure, vibrant communities, meetups, educational components, partnerships, and ensuring that we fit into existing ecosystems. We were looking at how we complement what already exists, not compete with it."

Jon Hope, Director, Barclays Eagle Labs

"There is currently unprecedented demand for tech skills. The big challenge is attracting new people when there is a skills shortage. Most people want to come to work for a reason, to do something with an outcome. This is what motivates them to come to work."

Stephen Reed, Head of Delivery, BJSS

"The majority of other incubators or places where you provide support for entrepreneurs is in universities or academic corridors, but not everyone will have access to those locations. We are based in the community, and people come in this building for different purposes, which are often more related to their need within the community. While they're here, they get a chance to see they can start their own business."

Jabo Butera, Co-Founder and Managing Director,
Diversity Business Incubator

"There's logic to the south west peninsula having a different character to the West of England with different emerging and prevailing industries which can still compete at a global scale."

Stuart Brocklehurst, CEO, Applegate Marketplace

"Since its inception in January 2018, PSP has very much been open for business and if we are too narrow in prescription for type within the related sectors, we could lose out to other science parks. PSP's strategy identifies diversification because its establishment is driven by innovation and development which also enable job creation in Science and Technology. We will continue to welcome R&D and manufacturing as well as availing accommodation for emerging technologies thanks to our recognition of the pace of development in technology and advances being made in the South West."

Mutamba McCormack, Site Operations, Porton Science Park

"In 2017, we opened our first incubator in central Bristol, providing 15,000 sq. ft of research facilities for early-stage companies – something I had observed was missing. I moved my own biotech company Ziylo in there which was sold in 2018, at which point I then became an angel investor and made about 14 angel investments. This naturally lead me to set up Science Creates Ventures in 2020. In 2021 we also opened our second incubator in Bristol Old Market, providing an additional 30,000 square foot of R&D space for these research-intensive early-stage companies."

Harry Destecroix, CEO & Co-Founder, Science Creates Incubators

"The area we need to step into is scaling up and partnering beyond the region. There is an immense amount of internal collaboration across the regional the tech cluster, but a lot less collaboration on programmes outside of the region which would be more effective in attracting corporate innovation funding or external investment."

Marty Reid, Director, SETsquared Bristol & Engine Shed

"The South West is huge geographical region that extends from Wiltshire and Gloucester to Dorset, Devon and Cornwall. Exeter's physical location, communications and facilities promote collaboration in a region with large distances and low population densities."

Dr Sally Basker, CEO, Exeter Science Park

"We've made real progress in recent years and the pandemic certainly helped improve connectivity. I actually think we are becoming one of the most joined up regions around specific specialisms and common interests. Nick Sturge and others have always advocated for Bristol to look into the region as well as beyond it, and that has certainly helped. Despite the variety of clusters and hubs across such a large geography, we are good at sharing learnings and insight."

Dan Pritchard, Co-Founder, Tech South West

"What we do definitely has a national impact, and we also have members from other countries including Africa. In terms of collaborating, we are always really up for collaborating with other incubators, mainly because we don't really see others as competitors, because I think we all offer different things."

Sarah Carr, Head of Farm491

"I would say that across Torbay, Plymouth, South Hams, and Exeter, the businesses that are relevant to the growth of the region, are either inside EPIC, interacting with EPIC or have some form of connection to EPIC."

Wayne Loschi, Centre Director, EPIC









Tech from the Cutting Edge

Tech South West has been built by tech companies for tech companies. At times it's been a winding journey. At other times - especially since Covid struck - it's proven to be a rapidly expanding ecosystem of collaboration, connection and communication.

And now, in 2022, it feels like a key step change has been achieved, with the tech sector more visible, connected and successful than ever.

With over 2500 members, we work closely with tech hubs and clusters across the region, run the Regional Tech Leadership Forum and South West Clusters Group.

Tech South West has four key functions to help tech companies thrive. The three main areas are:

- Business Support
- Funding
- Talent

And these are underpinned by the fourth function, which we call 'joining the dots'; connecting, collaborating, communicating, and helping to showcase the diverse strengths and successes of our sector.

Toby Parkin, chair of Tech South West, says: "We've come a long way and I truly believe the South West is now the most connected regional tech hub in the country. Every part has an array of specialisms, vibrant tech companies, science parks, universities and other centres of excellence. But we don't just stick to our patch. There is a genuine spirit of collaboration and mutual support that accelerated during the pandemic and is now at the core of how we do tech in the South West."

This report, and data from our own members, confirms there are considerable challenges facing the sector.

Toby adds: "We need to grow the talent pool and do more to ensure school curriculums, college and university courses are as industry-focused as we can make them; degree courses shaped by tech companies, work placements where students are truly part of the team, and even companies based alongside students, as they are in the new Fibre Hub facility at Cornwall College Group."

Funding

Funding is another key area, with Tech South West establishing the region's Funding Advisory Board (FAB), to pull together key components and players to boost all types of funding and investment, improve signposting, and capitalise on the new £200m South West fund.

Ben Cooper, Tech South West Business and Funding Lead, says: "Funding - be it via investment, debt or grants - is the lifeblood of innovation. And whilst we have seen significant increases in inward investment over the pandemic, the South West still punches below its weight when compared to other regions - especially outside of Bristol."

"Through our Funding Advisory Board we are working with organisations such as the British Business Bank, Innovate UK, Enterprise Investment Scheme Association and the UK Business Angels Association, and the funding facilitators - like SETSquared, Falmouth Launchpad, Plymouth Science Park and UWE Future Space, and launching initiatives to help develop the investment landscape, and make the South West tech community more attractive to national and international funds."

Tech South West's Business Support Programme includes the busy StartUp and ScaleUp Studios, with the likes of Groundwaves, Paranimo, and Eate already 'graduating' and progressing.



Ben Cooper, Laura Bond and Dan Pritchard of Tech South West

Supporting the tech community

And underpinning everything, are activities to bring the community together - the Tech South West Awards, online summits, esports festivals, South West Tech Daily news site and podcast, roundtable events and more.

Tech Peer Groups and a new TouchDown Tech Hub series have been launched, providing new ways to connect, learn, seize opportunities and move forward together.

And for the first time, alongside free individual membership, new company membership packs have been developed, with a raft of benefits, including the new Tech Pass, offering major discounts, and even free use, of some of the best tech hub co-working spaces.

To join Tech South West and discover more about our Business Support, Funding and Talent programmes, www.techsouthwest.co.uk

For latest news **www.swtechdaily.co.uk** And to get involved as a Partner or Sponsor, contact laura.bond@techsouthwest.co.uk

SPONSOR CONTENT



Springboard to a brighter future

As the Brand Communications Consultancy that launched Tech South West, it's thrilling to see how far the sector has come in such a short span of time.

Astley Media's task has always been to support the community; help join the dots between the tech hubs centred on cities, universities and local clusters.

We do what we do best - brand, communications and marketing for players in the tech place.

And you do what you do best - amazing work and innovation inside the array of companies, laboratories, science parks and other centres of excellence; marinetech, healthtech, cybersecurity, robotics, fintech, life sciences and climate science. The list goes on and on...

Which is why it's hard to define the brand that is 'tech in the south west'. Because there is huge variety. Tech in Cornwall is different to tech in Bristol. Tech in Plymouth is different to tech in Cheltenham.

But our 'variety pack' approach to tech is to be celebrated. It gives us strength in depth.

Alongside the differences, we've discovered two uniting traits that we believe help to define our thriving tech sector: you love doing tech from the (cutting) edge, and you love doing tech that makes a real difference in the world.

In a world that's heating up, climate science matters.
In a world of poverty, food tech matters.
And in a world of rich and poor, community-focused tech for all matters.

That means technology born out of a human-centred approach.

And this interface between technology and people is where Astley Media works, bringing to life the story of tech and why it matters to people. Aligning tech brands with their markets and creating passionate customers, advocates, connections, collaborations and partnerships. That's what we do for our clients.

The potential to become a leading tech hub has always been evident to us. Green tech, clean tech; of course it has to be the South West - 700 miles of coastline, national parks, heritage cities, towns and villages spread across a landscape of fields, hills, moors and rivers shaped and reshaped by humanity over thousands of years. Home to millions, loved by millions more.

If you can build great tech that does great things anywhere in the UK, then why wouldn't you choose the South West?

The entrepreneurial spirit is ingrained. We're the bit that sticks out, jutting into the ocean as if pointing the way ahead. Travellers, explorers, navigators. Some with good intentions, some with bad. But they all stepped out into the big wide world from the South West.

Tech from the cutting edge - that's what we're about.

Without question this report shows how our connectivity is forging ahead. Geography does not hold us back anymore. Nor does uncertainty. We know we do amazing tech. And the world is starting to find out.

We're changing. As we work with more brands in the tech space, we continue to strengthen and evolve, which is why a new Astley Media will be unveiled in 2022, with twin centres in Bristol and Exeter. New brand. New name. Same passion. Same resolve. Helping to elevate the brand leaders striving to make a positive difference in the world.



Emma McLeod, Head of Client Services

Astley Media works with founders, entrepreneurs and leadership teams with a passion for tech and a belief in humanity.

If you're on the cusp of doing something great, we're here to help you get there.

Define your brand. Shape your market. Deliver real change. Let's see how far we can go - together.

Stakeholder Perspectives

"Our many visitors can become our future tenants. When visiting SMEs at Porton,, they remark on, and are very interested to learn more about, the site's development - and especially with the current construction of PSP's second building, the Collaborative Innovation Centre, expected to be ready for occupancy later in 2022. Our situation at Porton Down in the south Wiltshire countryside offers a beautiful and scenic setting at an extraordinarily unique location. Enquiries for labs and office space are received not only from across the UK, but also internationally from Europe, Australia, the Middle East, and the USA."

Mutamba McCormack, Site Operations, Porton Science Park

"For our first fund looks like 50-60% of the investments will be the South West, the rest are spread across the UK as we are a national investor. As a standalone venture capital firm, we love being based in Bristol, which is a fantastic place to be!."

Harry Destecroix, Managing Partner & Co-Founder, Science Creates Ventures "Collaboration is a key part of innovation. One of the things I value working with Oxford Innovation is the network of Innovation Directors across the UK – this means that I can tap into different perspectives and see a bigger picture of what is going on. We're starting to see more of that locally with tech support moving into Bristol, such as the new Digital Catapult partnership."

Aimee Skinner, Innovation Manager, Future Space Bristol

"Businesses generally don't tie themselves to the geography. You may have a major office in Exeter but then also a little drop space in Plymouth. I think we need a few bodies that do some brokerage that are not tied to geography."

lan Fadzen, CEO, Plymouth Science Park

"I think we need to be curating connections between different areas. I believe there is a need for helping catalyse discussions between areas, certainly between the local clusters, because that's where different areas will start learning from each other."

Toby Parkins, Founding Director, Headforwards

"The global space sector presents significant opportunities for international collaborations, to tackle key environmental, health and sustainability challenges, and accelerate impactful technologies and innovations."

Conrad Gillespie, Centre Manager, South West Centre of Excellence in Satellite Applications

"Cooperation tends to be sector and project specific. It can sometimes be more beneficial to work geographically."

Tatjana Humphries, Senior Inward Investment Executive, Invest Bristol & Bath

"There is a real spirit of collaboration. Of course clusters and hubs rightly focus on their priorities, which are often closer to home, but at the same time we recognise the benefits of working together on the key issues. Globally, the South West is a small place. We have to team up to compete, showcase and get on the global tech map."

Dan Pritchard Co-Founder, Tech South West



South West Sub-regions

Key Findings

Cornwall

- Cornwall has the fastest growing tech sector in the South West
- There is significant recent and anticipated activity around SpaceTech
- Cornwall is seeing more environment-focused investment
- AgriTech is a prominent sector in the region

Devon

- Numerous new tech-related initiatives in Devon are focused on sustainable development
- Exeter is a thriving tech hub and at the forefront of Climate research
- Plymouth is home to a flourishing MarineTech and HealthTech sector
- Torbay has a key strength in Electronics and Photonics

Dorset

- Dorset is using its rich farming history to build an AgriTech sector
- Defence and Cybersecurity clusters are being developed in Dorset
- Dorset and Bournemouth are growing hubs for Advanced Manufacturing, Creative, and MarineTech
- The government is improving fibre connectivity and digital infrastructure in Dorset

Gloucestershire

- Gloucestershire is at the forefron of Cybersecurity in the UK
- Major investment is being made in developing Cybersecurity infrastructure and skills
- There is a strong presence of research and innovation facilities across Gloucestershire
- Gloucestershire has key strengths in AgriTech, including several major initiatives

Somerset

- Somerset has a rich history and tech strength in Nuclear energy
- The region has strong Aerospace and MedTech sectors
- New digital initiatives are being developed that aim to enhance the skills within the workforce in the region
- Somerset is investing in CleanTech and sustainable development

West of England

- West of England is home to the largest tech industry in the South West
- Bristol is the primary tech hub in the South West, with strengths across multiple tech sectors
- Bristol is the focal point for equity investment into businesses in the South West
- Bath is the second city, and is undergoing significant regeneration

Wiltshire

- Swindon and the surrounding area have a rich history in Automotive Technology
- The Life Sciences and Defence sectors are strong in the region
- Digital technologies and Cybersecurity are key areas of focus for the future
- Various initiatives are underway to enhance the tech skills talent pool

Cornwall

URBAN CENTRES:

Redruth, Falmouth, St Austell, Truro, Newquay, Penzance

575,500

881
Tech firms

£13.6bn

population

8,457

Tech workforce

£553m Tech GVA

270,600 workforce

KEY TECH STRENGTHS:

AgriTech, Gaming, MarineTech, Renewable Energy, SpaceTech

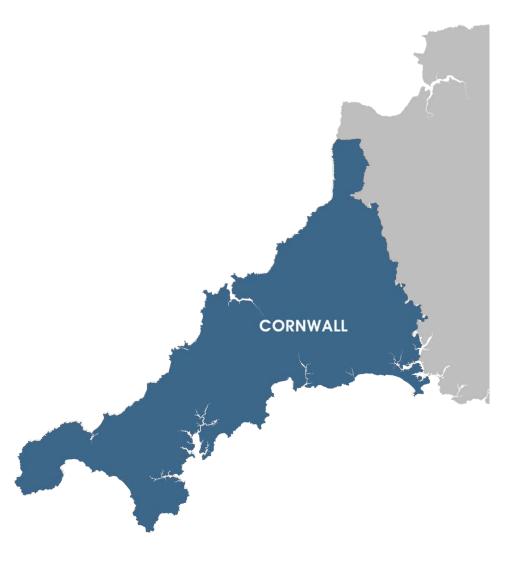
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Cornwall has the fastest growing tech sector in the South West

There is significant recent and anticipated activity around SpaceTech

Cornwall is seeing more environment-focused investment

AgriTech is a prominent sector in the region



Cornwall

Cornwall is the most south westerly county in the UK, within which the Isles of Scilly are located as a district unity. The region holds 0.86% of the UK population, generating £13.6bn to the economy, of which 4.1% is generated through its tech sector. Cornwall has the fastest growing tech sector in the South West and the sub-region is also the fastest growing within the South West, with a forecasted 17.9% CAGR by 2026.

The coastal land mass of Cornwall creates an ideal environment for the fast-growing SpaceTech sector. This is helping the South West become the second most populated UK region for Aerospace businesses, in part due to its footing in the £1.12bn UK space equipment segment. As a result, for the first time in the UK, rockets will be launched from Cornwall in 2022. This is possible largely due to the strong ecosystem of space organisations, but also the support the sector is receiving from the Cornwall and Isles of Scilly LEP.

The space sector is being heavily pushed by the LEP, supporting organisations such as the Spaceport Cornwall, a consortium facilitating satellite assembly which is aiming to create 390 jobs by 2025, potentially generating £250m for the regional economy. The consortium includes Cornwall Council, Goonhilly Earth Station, UK Space Agency and Virgin Orbit. Other significant organisations can be viewed on the Space Cluster Map, published by Aerospace Cornwall.¹⁷

Supplementing the regional space sector, the Valency Centre, at Penwith college, provides higher-level apprenticeships, short courses and degrees for Space and Aerospace careers.

This is expected to further advance the sector, contributing to the strong tech growth forecast.

Additional support to the sector includes £14.3m from the Getting Building Fund, which aims to support the UK's Covid economic recovery, allocated to the Cornwall and Isles of Scilly LEP for a wide range of projects including the SpaceTech sector and to promote STEM skills. The £6.3m STEM and Health Skills Centre for North and East Cornwall, partly financed through the fund, is being built in Bodmin by Truro and Penwith College.

Cornwall is seeing several large-scale investments, focused on improving the environment. A combined £4m+ is being granted from the European Regional Development fund to two Cornwall offshore winder farm organisations; expected to be matched by private sector funding. The organisations are Reflex Marine, based in Aberdeen with a presence in Truro, recognised as a global leader in offshore access, and Trivane, a concept for a floating wind turbine which rotates around a turret mooring to face the wind. Trivane has been supported by Marine-I through RD&I support.

Set up in 2017, Marine-I is a research development and innovation centre for the marine sector. The organisation brings in expertise from the University of Exeter, University of Plymouth, Falmouth Marine School, Cornwall Marine Network, Catapult, and Cornwall Development Company.

Blue Abyss is another organisation supporting Cornwall's marine sector. The facility is to be the world leading research, training and development facility for commercial diving, submersibles, space exploration, and Life Sciences. Blue Abyss aims to enable extreme environment development for both humans and robotics, focussing on offshore energy to the human spaceflight sector and adventure tourism.

AgriTech is also prominent in Cornwall. AgriTech Cornwall, a three year £10m initiative, which is also part-funded by the European Regional Development Fund. It was set up to support Cornish SMEs and is and once again highlights successful collaboration in the South West. The project is run by the Duchy College Rural Business School in partnership with the Universities of Exeter and Plymouth and Rothamsted Research, the Cornwall Development Company, Cornwall Council and the Council of the Isles of Scilly.

A recent addition to the tech landscape in Cornwall has been FibreHub, which opened in 2021. Based between Pool and Camborne, FibreHub offers workspace and meeting facilities for software, tech and digital businesses. The longer-term ambition is for FibreHub to develop into FibrePark, becoming a modern-day emblem of industry in Cornwall and countering the tech sector's invisibility and dispersion. It aims to foster a cluster of tech businesses which can work directly with local schools and Cornwall College to inspire people into tech careers and create the pipeline of talent that businesses need.

https://my.ibisworld.com/uk/en/industry/c30.300/products-and-markets

¹⁷ https://aerospacecornwall.co.uk/cornwall-space/space-cluster-map

Devon

URBAN CENTRES:

Plymouth, Exeter, Torbay



1,209,700

1,980
Tech firms

£31.3bn

598,400

17,448

£1,141m

workforce

KEY TECH STRENGTHS:

Climate, Engineering, GreenTech, HealthTech, MarineTech, Photonic

12%

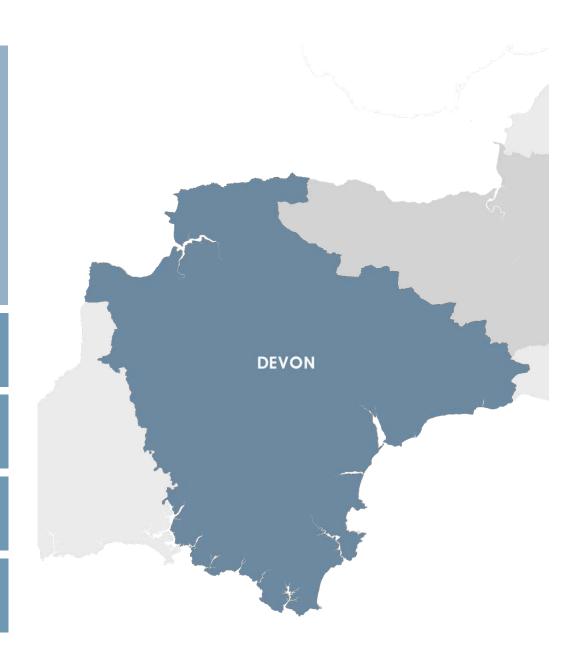
growth rate

Numerous new tech-related initiatives in Devon are focused on sustainable development

Exeter is a thriving tech hub and at the forefront of Climate research

Plymouth is home to a flourishing MarineTech and HealthTech sector

Torbay has a key strength in Electronics and Photonics



Devon

Devon, including Torbay and Plymouth, is the largest sub-region by population, and accounts for 21.3% of the South West's workforce. The tech sector currently accounts for approximately 10% of the South West's tech economy, but the economic value it creates is expected to grow 12% per annum over the next five years due to activities in MarineTech, Photonics, GreenTech, AgriTech, and Engineering.

Numerous new tech-related initiatives in Devon are focused on sustainable development. In order to combat global warming, multiple public, private and voluntary organisations from across Devon have come together to form the Devon Climate Emergency Response Group. Together, they are developing a Devon Carbon Plan, created by the Net-Zero Task Force.

Exeter is a thriving tech hub and at the forefront of climate research and was heavily involved in the recent COP26 Climate Summit. The MetOffice based in Exeter has also invested £1.2bn in the next generation of supercomputers in a bid to improve weather and climate forecasting and inform Government policy on climate change. The new supercomputer is expected to be the world's most advanced weather and climate computer and will enable researchers to capture 215 billion global weather observations per day. The Met Office employs around 500-600 people on a full-time and part-time basis. When the UK experiences a significant weather event, the Met Office website is in the top five most visited websites in the UK, with more traffic than even the BBC.

The University of Exeter is also at the forefront of Environmental Science/Data Science in the world, with five of the top 21 climate scientists in the UK based there. The University's Institute for Data Science and Artificial Intelligence (IDSAI) is

globally recognised and provides a hub for data-intensive science and AI activity within the region. A £6.25m collaborative Climate and Environment Social Science Programme is also being led by the universities of Exeter and Surrey for carbon neutrality by 2050.

SETsquared Exeter, a part of SETsquared, has been ranked as the Global #1 University Business Incubator, and has a base at University of Exeter. It is an enterprise partnership between the universities of Bath, Bristol, Exeter, Southampton and Surrey and Cardiff. It is a business incubator which works towards social and economic benefit, focusing on regional innovation and building up the South West's economy. Through the University of Exeter's campus in Cornwall, SETsquared is also active in Cornwall.

Exeter College's new Institute of Technology Digital and Data Centre aims to help the South West drive growth and widen opportunities. Exeter Science Park, a centre for STEMM activity, provides incubation, growon space and support for businesses specialising in STEMM and is another hub for Climate/Environmental research. The Park gets innovation support from SETsquared Exeter, and also provides support to startups and scaleups. It has also opened a £5m STEMM centre, which is set to support over 100 jobs.

Plymouth has a flourishing MarineTech ecosystem, with one of the largest clusters of marine science expertise in Europe. Oceansgate, the UK's first Marine Enterprise Zone is in the final phase of being built in Plymouth which will bring together marine-based businesses with opportunities for research, innovation, and collaboration. The Marine Business Technology Centre will also be based in Oceansgate and will deliver an in-sea test facility focused on testing Photonics, Data Science and Environmental monitoring.

An independent MarineTech charity, Plymouth Marine Laboratory (PML), has partnerships worldwide and 10% of its scientists are in the top 1% of environmental scientists worldwide. PML is partnered with the UK Research & Innovation's Natural Environment Research Council.

Plymouth is also a growing hub for HealthTech innovation. The University of Plymouth's Health Innovation Campus is the largest health campus in Europe, taking advantage of the existing innovation assets like Plymouth Science Park and Plymouth Medical and Technology Park. The university is also internationally recognised for its research in the marine industry and its range of facilities. Plymouth Science Park is a major science and technology centre and a base for a blend of local and international businesses, startups and academics. It helps promoting research and innovation, and acts as a hub for HealthTech, MarineTech and Advanced Engineering.

Torbay is at the centre of a globally recognised Electronics and Photonics sector across Devon and Somerset, and rapid growth of this sector has created additional demand for skilled workers. Global technology firms including Lumentum, Gooch & Housego, Spirent, Queensgate (Prior Scientific), Effect Photonics and II–VI Photonics are all located in Torbay.

A new Electronics and Photonics Production Park in Torbay Business Park is also being planned. The proposal hopes to add an extra £18m a year to the local economy and create 175 new jobs and will build upon the existing work that EPIC does.

Dorset

URBAN CENTRES:

Bournemouth, Poole, Weymouth, Christchurch



776,800

1,454

£21.1_{bn} GVA

23,667

377,100

£1,548_m

KEY TECH STRENGTHS:

Advanced Engineering, AgriTech, Creative, Advanced Manufacturing, MarineTech

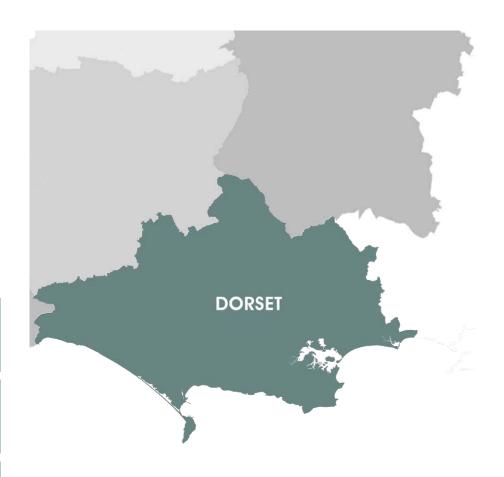
12%

Dorset is using its rich farming history to build an AgriTech sector

Defence and Cybersecurity clusters are being developed in Dorset

Dorset is a growing hub for Advanced Manufacturing, Creative, and Marine Tech

The government is improving fibre connectivity, digital infrastructure and digital skills support in Dorset



Dorset

Dorset makes up 14% of the South West by population and sustains a substantial tech sector, which also makes up 14% of the South West's tech economy. There is a large proportion of tech students in the sub-region (12%), presenting opportunity to strengthen key competencies in Advanced Engineering and Manufacturing, AgriTech, Creative, MarineTech and financial services.

Dorset has a rich history of farming and plays a key role in the economic activity of rural Dorset, promoting the AgriTech sector. The Advanced Engineering sector supplements the AgriTech sector, employing around 15,400 people, contributing £800m to the local economy.

To promote the AgriTech sector, a new £1.9m research and design centre was opened in Dorset Innovation Park. The Dorset LEP also released a £24bn investment roadmap plan for the next 10 years to boost Dorset's key sectors, potentially creating over 50,000 jobs. Part of this roadmap includes a new Science Park in Bournemouth and developing the Defence and Cybersecurity clusters in Dorset.

Dorset is a growing hub for Advanced Manufacturing, Creative, and MarineTech. The Port of Poole is one of the largest Trust Ports in the UK and offers boatbuilding, design and Advanced Manufacturing. It is also home to some of the largest companies in Composites, participating in the Aerospace and Renewable Energy industries. The UK's first red claw crayfish farm which uses environmentally friendly tech is due to open shortly in Dorset, promoting the MarineTech sector.

The county is home to one of the fastest growing Creative and Digital hubs in the South West.

Bournemouth and Poole have been highlighted as the UK's top areas for digital businesses with high growth, with an expertise in visual effects, gaming, and digital agencies. 18

Much of the expertise and workforce comes out of the two universities in Dorset, Bournemouth University and Arts University Bournemouth, both of which specialise in Creative and Digital industries. Dorset is also at the forefront of 5G wireless communications technology plans.

Additionally, the government is investing to improve the fibre connectivity and digital infrastructure in Dorset, with the local LEP being allocated £11.8m from the Getting Building Fund for a wide-ranging package of projects that will deliver a boost to the local economy, including fibre hub connectivity. The LEP's prospectus showcases how technology is helping drive new industries like SpaceTech, E-Health and MarineTech, and can transform existing sectors like Agriculture and Mining.

As part of the Getting Building Fund, the government is helping fund a network infrastructure in Bournemouth and Poole. This investment will provide up-to-date digital infrastructure at Bournemouth and Poole College which will improve the network bandwidth, security, and connectivity for the benefit of students, apprentices, and staff. The project will support the teaching of digital skills required in the workplace, support the increasing use of digital resources, and support the online delivery of teaching and learning for both onsite and remote learners.

Based near Dorchester, Dorset Innovation Park aims to develop an Advanced Engineering cluster of excellence for the South West. It focuses on Dorset's strengths in Marine, Defence, Energy and Cybersecurity. The park was created by Dorset Council and Dorset Local Enterprise Partnership (LEP), with the intention of providing a new opportunity for businesses within the local area. It currently houses 25 organisations and nearly 700 people are based there. Businesses based at the park include Atlas Elektronik UK (MarineTech supplier)), Britliff (manufacturer in martime), HM Coastguard, Seenite (marine security and camera systems), and Zeus UAV (manufacturer and Service provider of Unmanned Aircraft Systems).

The Defence Innovation Centre is also based in Dorset Innovation Park. It allows the Ministry of Defence (MoD) to work directly with SMEs, academic institutions and wider industry to develop new technology and products that could be commercialised in the future.

¹⁸ https://technation.io/insights/tech-nation-2017/

Gloucestershire

URBAN CENTRES: Cheltenham, Gloucester, Stroud, Cirencester, Tewkesbury 640,700 population 326,600 workforce 32,951 Tech firms GVA \$2,096m Tech GVA KEY TECH STRENGTHS: Advanced Manufacturing

Gloucestershire is at the forefront of Cybersecurity in the UK

Major investments are being made in developing Cybersecurity infrastructure and skills

There is a strong presence of research and innovation facilities across Gloucestershire

Gloucestershire has key strengths in AgriTech, including several major initiatives



Gloucestershire

Gloucestershire has been at the forefront of Cybersecurity and Cyber innovation in the UK, and the country's national Cybersecurity and communications centre GCHQ is based in Cheltenham. GCHQ has used its strong Cybersecurity base to train people not only in Cybersecurity but also areas like software development, retail innovation and virtual reality, employing over 5,900 people. The Cybersecurity sector in Gloucestershire is worth an estimated £8.3bn.

Gloucestershire has been at the forefront of Cybersecurity and Cyber innovation in the UK, part thanks to GCHQ - the country's national Cybersecurity and communications centre based in Cheltenham. The Cybersecurity sector in Gloucestershire is worth an estimated £8.3bn. GCHQ has built on its significant presence to train people not only in Cybersecurity but also areas like software development, retail innovation and virtual reality, and now employs over 5,900 people.

Cheltenham Borough Council is collaborating with Tewkesbury Borough Council to create a 'CyberTech' campus, called Golden Valley. The campus will include residential and commercial space, with a focus on innovation, long-term economic growth, social inclusion and sustainable development. The project aspires to create an estimated 12,000 new jobs.

Within the Golden Valley development, Cyber Central is scheduled to launch in 2023. It will host the National Cyber Innovation Centre, a Cybersecurity campus with educational facilities, an incubator for local startups and office spaces for Cybersecurity companies. Another innovative Cybersecurity coworking space, Hub8, opened in 2019.

Hub8 provides networking opportunities and access to business support, investment, and funding advice to companies at each growth stage.

The county has a strong Defence sector, with some of the world's largest Defence firms like Raytheon Technologies and L3TRL Technology calling it home. There is a strong presence of research and innovation facilities across Gloucestershire. The government has allocated £22m of funding to the Gloucestershire LEP to develop Cybersecurity skills and build Cyber parks outside of Cheltenham as part of the government's National Cyber Strategy.

Cheltenham is often referred to as the UK's 'Cyber capital'. The town links significant elements of GCHQ's supply chain to the region and is located within a 75-minute drive of 20 universities.

Developing more talent is a priority, and Gloucestershire College is the first college in England to offer a Cybersecurity degree apprenticeship certified by the National Cyber Security Centre. The South West Cyber Resilience Centre (SWCRC) is offering free membership to help to protect small companies and charities in Gloucestershire from cybercrime.

Sustainability is also a key priority. Gloucestershire Science and Technology Park located in Berkeley Green has over 110 acres of land and actively contributes to the economic, environmental and social well-being of the community. It is also home to C11, the Cyber Security and Digital Innovation Centre. C11 is a part of the University of Gloucestershire and was designed to equip the workforce of the future with the skills, facilities, and capabilities to face digital challenges as they arise. It also provides incubation offices and support for startups.

Gloucestershire has strengths in AgriTech, thanks to its long and rich agricultural history. The county is home to internationally renowned agricultural institutions like the Royal Agricultural University and Hartpury University. Farm491, the UK's largest AgriTech incubator, is in Cirencester. Local AgriTech businesses have received £32m in investment and there are estimated to be nearly 5,000 students studying agricultural-related subjects in Gloucestershire. A report into the agriculture sector in Gloucestershire¹⁹ highlighted that the agricultural and rural sectors will undergo substantial change over the next 5-10 years, on a scale not seen for decades. One of the key drivers of this changes is technology, and specifically the impact of digitalisation and automation across the agrifood and rural economy.

The impact of technology is already clear, with Hartpury University opening a new AgriTech centre with an innovative 'Tech to Plate' concept, which gives farmers and AgriTech companies access to biosecurity and livestock handling units, further promoting research and innovation. The university specialises in agriculture, animal welfare, equine and veterinary nursing, and has the world's largest equine educational facility.

The world's largest vertical farm is also being built in Gloucestershire. This development was announced after the plans for a new £2m Agriculture Digital Innovation Farm Tech Box Park in Hartpury. With these developments, Gloucestershire is positioning itself as a leader in the AgriTech sector.

¹⁹ https://www.gfirstlep.com/downloads/2019/the-gloucestershire-agrifood-and-rural-economy-final-report-apr-2019.pdf

Somerset

URBAN CENTRES:
Taunton, Yeovil

563,900
1,264
Tech firms
272,300
Workforce
10,068
Tech workforce

KEY TECH STRENGTHS:
Aerospace, CleanTech, MedTech, Nuclear Energy

\$14.2bn
GVA
\$£658m
Tech GVA

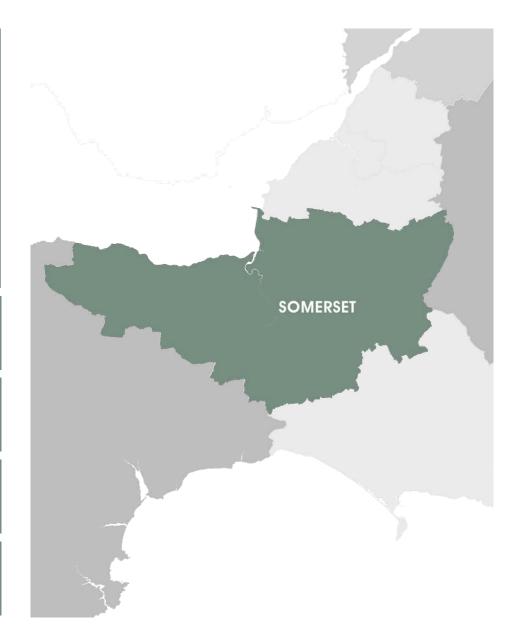
\$13%
growth rate

Somerset has a rich history and tech strength in Nuclear Energy

The region has strong Aerospace and MedTech sectors

New digital initiatives are being developed that aim to enhance the skills within the workforce in the region

Somerset is investing in CleanTech and sustainable development



Somerset

Somerset is the least populous sub-region in the South West with a relatively small but growing tech sector. Growth is forecasted at 12.5% annually, thanks to a stable Nuclear sector and emerging sustainable development themes.

Somerset has a rich Nuclear history and Hinkley Point C, the UK's biggest nuclear power station is being built there. It is estimated that the station will provide about 7% of the UK's total electricity needs. When complete, EDF Energy says it will be able to generate low-carbon electricity for over 60 years.

To train the future Nuclear workforce, University Centre Somerset (UCS) has developed the National College for Nuclear (NCfN), where they provide higher degree apprenticeships and specialist university accredited courses validated by UWE Bristol.

Somerset also has a flourishing Aerospace sector and is currently the centre of the UK's rotorcraft capability. Willmott Dixon was commissioned to build the iAero Centre, a research, design, and innovation facility in Yeovil which offers engineering technology supply chains, provides collaboration spaces and innovation support services.

The county has an impressive MedTech sector with the Rutherford Diagnostic Centre Somerset, built in partnership with NHS Somerset, a nationally recognised diagnostics centre, and a prime example of public and private collaboration. The BioTech sector is also expanding fast, with companies like Singer Instruments boosting the county's profile.

New developments aimed at enhancing the workforce creating more opportunities are underway. Digital Somerset, formally known as Digital

Taunton, is the digital hub in Somerset which works on developing the local talent network and providing a platform for digital innovation and collaboration. They do free, monthly events driven by local business leaders and work on upskilling the local talent. The Somerset Energy Innovation Centre (SEIC) in Bridgwater is another key innovation centre and is designed to support the existing strengths of the county.

To enable post-covid recovery, The Somerset County Council has commissioned an £11m Digital Innovation Centre in Taunton which will play a key role in the regeneration of the local economy, along with providing support services for digital economy businesses.

Weston College has also launched a scheme aimed at training people to help them adjust to the employment skills requirements due to the coronavirus pandemic. The scheme aims to upskill existing roles and improve the mental wellbeing of those who find themselves out of work.

Bridgwater and Taunton College has strong links with industry, including tech. It's facilities and courses include a Technology Academy (in partnership with Bridgwater College) with training in engineering, vehicle development and technical skills, and an Esports Academy.

Gravity, a 616-acre commercial development site being built near Bridgwater is the UK's first commercial smart campus which aims to be a blueprint for a cleaner and smarter future. Between 4,000 and 7,500 jobs are expected to be created as part this. The project aims to make the site a campus that integrates work, homes, leisure, and green space, supported by a sustainable transport system and smart technology. Working with schools,

Bridgwater & Taunton College, and partners, Gravity aims to build resilience, create training opportunities, and inspire new careers as well as help local businesses respond to supply chain opportunities.

Somerset, much like the rest of the region, is investing into CleanTech and sustainable development. After reviewing its policies post-covid, South Somerset District Council has developed a new environmental strategy for the economic and environmental recovery of the county. Part of this policy is to invest more in renewable energy and expand the second Battery Energy Storage Site (BESS) in Hampshire. The new BESS will have double the capacity of the first one and will be one of the most technologically advanced sites of its type in the UK. The facility will be used to balance out fluctuating demands on the power grid.

The government is investing more in CleanTech for Somerset, with £2.5m out of the £23.6m central government's regeneration fund going towards the Glastonbury Clean Energy Project. Local authorities will be working with Avalon Community Energy (ACE) to power local businesses through new solar panel installations. This project is pivotal in the council's goal to make Glastonbury carbon-neutral in 2030.

The UK Hydrographic Office is based Taunton has a global reputation for the work they do. Viridor, the biggest UK waste management company also has its headquarters in Taunton, enabling sustainable development in the county.

West of England

URBAN CENTRES: Bristol, Bath, Weston-Super-Mare 1,165,700 4,894 population Tech firms 629,900 46,620 workforce Tech workforce KEY TECH STRENGTHS: Aerospace, Composites, Creative, Cybersecurity, FinTech, LegalTech, Life Sciences, MedTech, Quantum, Robotics, SpaceTech \$38.3bn GVA \$3,048m Tech GVA \$9% growth rate

West of England is home to the largest tech sector in the South West

Bristol is the primary tech hub in the South West, with strengths across multiple tech sectors

Bristol is the focal point for equity investment into businesses in the South West

Bath is the second city, and is undergoing significant regeneration



West of England

The West of England is the second most populous sub-region in the South West and has the largest tech sector, 45% bigger than Gloucestershire, which has the second largest tech sector. In addition to the largest workforce, the West of England also holds the third highest proportion of tech workers after Gloucestershire, at 7%. This is largely due to Bristol. which alone accounts for 13% of the South West's tech GVA. However, the West of England is forecasted to grow by 9% per year over the next five years, the slowest of the sub-regions by 2.5%. Despite this, there is opportunity to accelerate growth though graduate retention as the West of England holds the joint highest number of universities in the South West (four), as well as nearly five times more tech students than any other sub-region.

The city of Bristol is the primary tech hub for the South West. The most common tech sector in Bristol is Software-as-a-Service (SaaS), but it has key strengths in many other sub-sectors of tech, giving the city a rich tech base that is often highlighted nationally as a hub for 'Tech4Good', based on the prominence of organisations aiming to have a positive societal impact. Companies like Graphcore, Xmos, and Blu Wireless are based in Bristol, giving the city a strong presence in the semiconducter space. Many CleanTech startups like LettUs Grow and G-volution have also chosen Bristol as their home.

Bristol has a flourishing research base within Quantum technologies, as well as Physics and Life Sciences research. While conducting interviews for this report, stakeholders within the Quantum tech and Deep Tech sectors emphasised their desire to stay within Bristol because of this and their connectivity links.

The strong connectivity links and investment into the city has turned it into a hub for companies in the Robotics, Aerospace, and Automotive Industries, with firms like Open Bionics, Vertical Aerospace, and IAAPS calling it home. There is also a strong presence of MedTech and big Tech firms such as Open Bionics, BT, Amazon, Nokia, Oracle and Vodafone. Pioneering startups like eXmoor pharma, FluoretiQ, Graphcore, Ultraleap and Immersive Labs are also based in Bristol.

With nearly 500 high growth companies, Bristol is home to the 4th largest regional cluster of highgrowth companies outside of London. The city is also a hotbed for investment, with local businesses raising £308m in 2020, making it the third largest UK city for tech investment. Bristol and Bath Science Park, a partnership with the University of Bath, University of Bristol, University of the West of England (Bristol), and South Gloucestershire Council, located in South Gloucestershire provides a hub for tech businesses to accelerate their growth. Additionally, the Digital Catapult South West partnership which was announced in 2021 will build on multiple ongoing projects between Digital Catapult and the University of Bristol, providing a boost to national capability and strengthening innovation in Bristol and the wider region.

Bristol & Bath has a very strong FinTech presence, with Bristol being home to the most FinTech startups per head in the UK, and a higher density of FinTech startups and scaleups than any other region researched outside of London. Bristol is also one of the few UK cities to have a dedicated FinTech accelerator (delivered by NatWest) and is home to the largest digital cluster outside of London.

FinTech West, which represents the South West FinTech community, is currently developing a new accelerator in partnership with SETsquared Bristol.

Barclays Bank is extending its growing national network of Eagle Labs into the South West and plans on creating a new hub in Bristol. At the time of writing, Barclays has 29 Eagle Labs sites across the UK, including one in Exeter, but a major expansion is planned.

Bath is a World Heritage Site and an international tourism destination. The city is renowned for its quality of life and plays a crucial role in the Bath & North East Somerset (B&NES) economy. The city provides nearly 70% of the area's employment and GVA and is home to over 50% of B&NES businesses. 75% of priority sector employment is also based within the city.

Whilst Bath is the economic driver for the B&NES area, the market towns of Keynsham and the Somer Valley area provide two-thirds of the employment outside the city with a total of 16,600 jobs, just over 20% of the total jobs in B&NES. The market town areas also provide nearly 20% of the area's GVA output and 24% of the total stock of businesses, although only 14% are in the priority business sectors.

Bath Quays, the B&NES Council's regeneration project to create a new commercial quarter for businesses based in the Bath Enterprise Zone that opened in 2018 was designed to address the gap in provision for grade A office spaces and it will also allow expansion of local businesses and help new business relocate to the city. Since inception, they have created over 2,700 jobs for the city.

Wiltshire

URBAN CENTRES:

727,000

3,141

£26.8_{bn}

368,200

29,856

£1,952m

KEY TECH STRENGTHS:

13%

Swindon and the surrounding area has a rich history in Automotive Technology

The Life Sciences and Defence sectors are strong in the region

Digital Technologies and Cybersecurity are key areas of focus for the future

Various initiatives are underway to enhance the tech skills talent pool



Wiltshire

Wiltshire has a relatively concentrated tech sector. The sub-region makes up 13% of the South West by population but has 19% of the tech workforce. The established sector is largely accredited to its Defence and Life Science sectors and is forecasted to outperform the average growth across the South West, at a 12.6% CAGR over the next 5 years.

The northern part of Wiltshire is dominated by Swindon, which is the fourth largest town in the South West with just under 200,000 residents. Swindon is easily accessible from the east and the west and is within an hour's drive of Bristol International Airport and just over one hour on the train from London Paddington.

The Swindon and Wiltshire LEP was allocated £9.7m from the government's Getting Building Fund to support a wide-ranging package of projects that will boost the local economy, which already has core strengths across capabilities such as Life Sciences, Defence, and Cybersecurity, as well as long standing expertise in the automotive sector.

Swindon has a rich history and a flourishing cluster of automotive technology. BMW's pressing plants, which will produce parts for the new electric Mini is based in Swindon. Dyson is also investing £2bn in the development of electric cars and developing a new research & development centre and test track facilities. The Science Museum Group in Swindon which owns the former RAF Wroughton airfield is also developing a multi-discipline science and engineering research campus, with test track facilities for the automotive sector.

The town is also home to Nationwide, the UK's largest building society, including a growing team of over 250 Cybersecurity specialists. Via its Nationwide

Ventures arm, the building society has been actively investing a £50m fund into technology firms that have propositions aligned to Nationwide's strategic aims.

Swindon is also home to an active Hydrogen Hub to promote the commercial use of hydrogen, including automotive applications. Swindon Hydrogen Hub has over 30 organisations working together to develop projects to deploy hydrogen and fuel cell technology.

The Life Sciences and Defence sectors are flourishing in Wiltshire, with the county being home to the Porton Down facilities of Defence Science and Technology Laboratory (DTSL) and Public Health England (PHE).

Porton Down is a hub for innovation and collaboration between the private sector, government, and academia. DTSL works with over 60 universities and companies from around the world, with the research campus employing over 2,000 people. Through PHE, the facility also has strong links with research based academic institutions and industry leaders.

The expanding Porton Science Park offers companies facilities to scale their operations. It has a range of laboratories, along with support services for product development at all stages. Porton Biopharma also offers collaborators access to MHRA and FDA licensed facilities. It also maintains a strong relationship with the military, with the Government's Defence and Security Accelerator's headquarters based in Wiltshire. It helps facilitate the deployment of new technologies from the private sector into the military.

Digital technologies and Cybersecurity appear to be key sectors of focus in Wiltshire moving forward. Second sentence: amend cybersecurity to Cybersecurity. The Ministry of Defence's Global Cyber Operations Centre and future warfare development centre has its base in Wiltshire, and the county is home to numerous SMEs in the defence and cybersecurity sectors.

As with other sub-regions, the development of skills and talent is a key priority. Working adults in Swindon are being offered free digital skills courses delivered by the Institute of Technology as part of the Government's plan to upskill and reskill workers in STEM sectors in the UK, including Engineering, Digital and Construction. Courses will include Cybersecurity, Cloud Management, Agile Methodology, DevOps and Data Analysis. The Swindon and Wiltshire Institute of Technology started delivering courses in September 2021, aiming to provide high quality teaching and learning, and working environments that reflect those used as standard within the workplace.

Wiltshire is also a British Army Super Garrison with a focus on digital and technology innovation. This has enabled tech firms to set up a base in Wiltshire and take advantage of the availability of experienced veterans.

Stakeholder Perspectives

"The tech sector in the South West punches above its weight in my opinion. One impact of this is that a lot of tech businesses are busy focusing on global markets, which are often global niche markets. As a result, they are not as engaged in local economic policy and funding, which I feel can be to the detriment of regional economic development."

Toby Parkins, Founding Director, Headforwards

"I'm a massive fan and advocate of the South West. We've got some amazing universities, we've got some amazing skills training centres, which are critical to delivering the technical workforce of the future. A lot of our skills training and academic learning needs to be utilised and applied in delivering real projectsthat improve life, local economies and our amazing live, work and play environment."

Jonathan Davis, Project Development Advisor, Gravity

"You have to make sure that employers, small or large, understand the value of recruiting people who might not look, or sound like them. CyberTech is fundamentally about getting people with very different perspectives and very different backgrounds, into the workforce. This is because we need people who think like the people we're trying to secure against. It's not just about cybersecurity and security threats."

Nick Sturge MBE, Chair, TechSPARK & Strategic Adviser, Cyber Central Innovation Zone, Cheltenham Borough Council

"We're science and technology driven, and large organisations like the Met Office need a lot of high-level skills. What we are also realising is that the things that are nothing to do with technical acumen, or scientific acumen are super important."

Charles Ewen, Director & CIO, Met Office

"There's a great rich base of research here, supported by local universities that produce top tier talent. And more experienced talent with operational and industry experience is very happy to move to Bristol. We have found the move to remote working has also helped."

Harry Destecroix, CEO & Co-Founder, Science Creates Incubators

"Scaling Tech firms exhibit different growth characteristics to businesses in other sectors so lending to them on a traditional senior debt basis can present a challenge for banks . Rather than taking past performance, Banks have to challenge themselves to take a different approach to sizing risk appetite. In response to this need, we've developed a Mid-Market Growth Fund which enables current or future performance to be considered in structuring alongside providing more creative repayment structures, to give growing businesses more patient debt capital. This is a small but positive step in lending innovation we've introduced that tech firms can take advantage of, but all banks could do more in this space, especially as the South West begins to produce more scale-ups."

Louis Spencer, TMT Lead, South-West, NatWest Commercial Banking

Data Analysis

Definitions & Methodology

Tech GVA is derived from the number of tech workers. To estimate the number of Tech Workers in the South West region, we used a formula which uses SIC codes (62) as a weighting against the more exhaustive Tech Nation UK data.

The formula:

South West Tech Workers =
$$\left(\frac{\text{South West Employment in SIC 62}}{\text{UK Employment in SIC 62}} \mathbf{x}\right)$$
 Total UK Tech Workforce (Tech Nation data) + Outside HQ Corporate Tech Employees

SIC 62 includes computer programming activities, ready-made interactive leisure and entertainment software development, business and domestic software development, computer consultancy activities, computer facilities management activities, and other information technology and computed service activities. However, this does not include typically include X-Tech sector organisations which make up major part of the tech economy. Despite this, we found SICs to be proportional to true tech workforce numbers. Therefore, they are used as a weighting against Tech Nation's more exhaustive UK estimation.

A similar approach has been taken with the number of tech companies. SIC 62 only considers IT firms, disregarding X-Tech businesses, but like workforce, they are proportional. Hence, an exhaustive number of tech companies published by Tech Nation for the whole of the South West is used, whilst sub-regional values are weighted by the proportion of companies in SIC 62.



Data Tables

Overview of Key UK Regions 2020/21

National Region	Population	Workforce	Tech Workforce	Tech GVA	Tech GVA per Population
East Midlands	4,865,600	2,406,000	121,451	€ 7,941,802,341	£1,632
East of England	6,269,200	3,241,000	254,863	£ 16,665,746,433	£2,658
Greater London	9,002,500	5,061,000	911,962	£ 59,634,107,142	£6,624
North East	2,680,800	1,249,000	46,171	£ 3,019,167,861	£1,126
North West	7,367,500	3,579,000	185,162	£ 12,107,928,342	£1,643
Northern Ireland	1,895,500	886,000	36,189	£ 2,366,434,899	£1,248
Scotland	5,466,000	2,775,000	143,533	£ 9,385,766,403	£1,717
South East	9,217,300	4,755,000	680,961	£ 44,528,720,751	£4,831
South West	5,659,100 6th	2,884,000 4th	168,169 6th	€ 10,996,728,662 6th	£1,943 4th
Wales	3,169,600	1,541,000	41,659	£ 2,724,123,669	£859
West Midlands	5,961,900	2,931,000	173,818	£ 11,366,132,838	£1,906
Yorkshire & Humber	5,526,400	2,664,000	119,801	£ 7,833,907,191	£1,418

South West Regional Tech Data & Forecasts

Region	GVA (2020)	Population	Tech GVA (2021)	Tech workforce
Cornwall	£13,625m	575,500	£553m	8,457
Devon	£31,304m	1,209,700	£1,141m	17,448
Dorset	£21,083m	776,800	£1,548m	23,667
Gloucestershire	£20,502m	640,700	£2,096m	32,053
Somerset	£14,245m	563,900	£658m	10,068
West of England	£38,306m	1,165,700	£3,049m	46,620
Wiltshire	£26,846m	727,000	£1,952m	29,856
South West Total	£165,911m	5,659,300	£10,997m	168,169

	Current	Future 5 years				
Region	2021	2022	2023	2024	2025	2026
Cornwall	£ 553,008,654	£ 651,814,430	€ 768,273,784	€ 905,540,873	£ 1,067,333,402	£ 1,258,098,711
Devon	£ 1,140,905,666	£ 1,276,421,800	£ 1,428,376,732	£ 1,598,785,830	£ 1,789,913,138	€ 2,004,302,202
Dorset	£ 1,547,609,918	£ 1,726,401,888	£ 1,925,850,985	£ 2,148,344,071	£ 2,396,543,828	€ 2,673,420,626
Gloucestershire	£ 2,095,965,369	£ 2,375,502,351	£ 2,692,320,924	£ 3,051,393,301	£ 3,458,354,831	£ 3,919,592,449
Somerset	£ 658,377,673	£ 740,560,687	£ 833,002,323	£ 936,983,129	£ 1,053,943,501	£ 1,185,503,632
West of England	£ 3,048,517,757	£ 3,314,816,462	£ 3,607,789,088	£ 3,930,384,661	£ 4,285,901,463	£ 4,678,030,395
Wiltshire	£ 1,952,343,625	£ 2,197,967,169	£ 2,474,493,550	£ 2,785,810,904	£ 3,136,296,579	£ 3,530,878,697
South West Total	£ 10,996,728,662	£ 12,283,484,788	£ 13,730,107,387	£ 15,357,242,768	£ 17,188,286,741	£ 19,249,826,712

Contributing Organisations

Applegate Golden Valley / Cyber Central

Astley Media Gravity

Barclays Eagle Labs Headforwards

BJSS Heart of the South West LEP

Bristol Robotics Lab Invest Bristol & Bath

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CoreBlue Met Office

Deloitte NatWest

Digital Devon National Composites Centre (NCC)

Diversity Business Incubator Porton Science Park

Electronics & Photonics Innovation Centre (EPIC) Plymouth Digital

Engine Shed Plymouth Science Park

Exeter Science Park Quantum Technology Enterprise Centre (QTEC)

Falmouth Launchpad Science Creates

Farm491 SETSquared Bristol

FinTech West SETSquared Exeter

Future Space Software Cornwall

South West Centre of Excellence

in Satellite Applications

Spaceport Cornwall

Tech South West

TechSPARK

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