

Unleashing Urban Innovation to Level Up the UK

Bristol case study

November 2020

Contents

About Bristol	2
About the University of Bristol	2
A Strong University and City Innovation Partnership	2
A Decade of Strategic Initiatives	2
Identifying Local Strengths and Opportunities	3
A Strengthening Partnership for the Future	4
The Temple Quarter Enterprise Campus and Innovation District	4
Further information	4

About Bristol

Bristol has the fastest growing and most globally significant tech cluster in the UK and the highest business start-up and survival rates among major UK cities. The city-region is globally recognised for excellence in digital media and at the forefront of the aerospace and advanced engineering sectors and home to tech-driven unicorns such as Ovo Energy and Graphcore.

It is the only UK city outside London to make a positive net contribution to the Exchequer. However, 42 areas in the region fall within the 10 per cent most deprived in the UK. Six areas are in the most deprived 1 per cent.

Bristol sits at the heart of the South West of England which has historically seen low levels of public investment but higher private sector spending on R&D. A rebalancing of public R&D investment in Bristol and the wider region could leverage even more private investment – creating jobs, driving growth and securing the UK's global position as an innovation and science superpower.

About the University of Bristol

The University of Bristol is one of the UK's most popular and successful universities and ranked among the world's top 50 higher education institutions. As one of Bristol's largest employers, the University has more than 7,400 staff and around 28,000 students, of whom around 5,000 are researchers.

The University contributes c.a. £1Bn a year to the city-region economy. In its 2016 Vision and Strategy, it committed to 'work with regional industry, universities and local government to develop research and innovation themes...to drive world leading innovation, economic growth and job creation'. In 2019, the University formally pledged to align its priorities with those of regional and city partners as part of a national Civic University initiative aimed at strengthening the impact on their places made by universities across the UK.

A Strong University and City Innovation Partnership

The University of Bristol (UoB) is an integral part of the local innovation ecosystem. In close partnership with Bristol City Council (BCC), West of England Combined Authority (WECA) and other local stakeholders, UoB has helped to identify high value opportunities and the supporting infrastructure needed to underpin strong local innovation-led growth. This collaboration has benefited not just the city of Bristol, but also the emerging Western Gateway Powerhouse and the wider South West of the UK.

A Decade of Strategic Initiatives

In the last decade, a series of strategic initiatives have demonstrated the potential of a university and its host city working in partnerships to identify opportunities and fuel local innovation-led growth. These initiatives include:

The National Composites Centre

Founded in 2011 to deliver the UK Composites Strategy, the National Composites Centre (NCC) sought to build on Bristol's industrial and academic sector strengths in composites technologies. It has been a highly successful UoB-owned and operated venture bringing together founding industry members (inc. Airbus, AgustaWestland, GKN Aerospace, Rolls Royce and Vestas) and academic capabilities to develop new methods for the design and rapid manufacture of high value composite materials products. This has helped to drive growth and attract substantial investment to the region and power world-class innovation with and for its industry members across the UK.

The advanced technologies developed at NCC have been applied across a range of sectors, notably in the development of next-generation jet aircraft engines and wings. From an initial £25m grant and green field site, NCC has grown to employ over 300 staff, co-located with scores of industrial engineers in a HQ facility of approx. 21,500 m². It is now a core Centre of the national High Value Manufacturing Catapult with over 40 industrial members, 725 organisations engaged (46% SME) and 8 major sectors supported. It hosts the largest ever UK Government R&D investment (£36.7m) in 10 new cutting-edge digital manufacturing technologies for composites to make the UK a composites world leader.

In 2019, the NCC launched NCC Connect, a new business unit dedicated to supporting the unique needs of small to medium-sized enterprises, helping them to access composites technology and specialist engineers. The NCC is now Europe's foremost composites innovation centre and most

recently is home to DETI – the Digital Engineering Technology and Innovation initiative, funded by the West of England Combined Authority.

Situated in the Bristol and Bath Science Park (which is itself supported by UoB, University of Bath, UWE Bristol and South Gloucestershire Council), the NCC proved to be a landmark anchor project that has helped attract inward investment and further strengthen the success of other high-tech innovative business clusters in the city-region. A new NCC satellite site in nearby Filton opened in 2018.

SETsquared Bristol

SETsquared is a world-leading university business incubator supporting over 80 high-tech start-ups and scale-ups each year over the past 18 years. The 500+ corporates that interact with the initiative have provided mentoring and investment, alongside angel investors and venture capital firms.

SETsquared success stories include University of Bristol spin-out, Ultrahaptics (now Ultraleap). Having entered the programme in 2013, it is now the world leader in mid-air touch technology and recently raised £35 million in its latest round of investment.

Established via a unique partnership between the universities of Bristol, Bath, Exeter, Southampton and Surrey, SETsquared has been ranked the global number one university business incubator for the last three years running by leading research and advisory firm, UBI Global.

SETsquared is headquartered in Bristol's The Engine Shed – a business centre operated by the UoB in partnership with Bristol City Council to drive growth and innovation for the South West region.

Established in 2014 in Brunel's Temple Meads station, by 2019 the Engine Shed had worked with over 60 partners to deliver positive social and economic benefit including: Investor Briefings (>250 investors and proposals from >100 start-up companies); the Entrepreneurial Outreach Project (for refugee and migrant communities to access business support networks); science and entrepreneurship activities for pupils primarily from disadvantaged areas; the Bristol Technology Festival (42 events, 22 venues, >5000 attendees).

The Engine Shed has also worked with the West of England LEP and West of England Combined Authority to increase opportunities for scaleup businesses across the West of England. This work has been praised by the Scale Up Institute as a model of best practice for other regions.

Unit DX

Unit DX is a deep tech incubator, home to Bristol's most innovative science and engineering companies. Since its establishment in 2017 in the heart of Bristol's Temple Quarter by University of Bristol alumnus Harry Destecroix, Unit DX has had a profound impact on Bristol's innovation ecosystem, helping to foster an environment that supports scientists, engineers and entrepreneurs transform cutting-edge research into next generation technologies with commercial application.

One of the first companies to move to Unit DX was Ziylo – a University of Bristol life sciences spinout whose struggle to find lab space inspired the creation of Unit DX. In 2018, Ziylo was acquired by Novo Nordisk in a staged deal worth a potential \$800 million. The sale has put Bristol on the map and attracted substantial additional investment to the sector.

Unit DX now hosts more than 30 high potential innovative business and growing. 60 per cent of these are UoB spin-outs. The University's connection with Unit DX is becoming even closer after jointly winning a Research England grant to develop a second incubator, Unit DY, launching very shortly.

Identifying Local Strengths and Opportunities

Throughout the last decade, the University has been extensively engaged in partnership with BCC, industry and other local stakeholders to develop research and innovation themes, provide the infrastructure, and identify local growth and regeneration opportunities across the city-region.

Such engagements allowed UoB to co-develop (through the GW4 university alliance with the Universities of Bath, Exeter, and Cardiff) the 2017 South West England and South East Wales Science and Innovation Audit for BEIS. The importance of the Digital Innovation and Advanced Engineering opportunity was noted, notably including aerospace, which required new skilled talent and innovation support. These areas were further refined in 2019, through the West of England Local Industrial Strategy, including life sciences, creative, quantum technology and financial sectors.

The Innovation Audit led to a detailed assessment of the needs of Bristol's residents, gathered in partnership with BCC, which identified a requirement for digital skills, enterprise spaces and urban regeneration.

A Strengthening Partnership for the Future

If the Bristol city-region is to compete successfully on the global stage, it needs a further step-up in investment in its innovation capacity. This means building on the track record of successes such as the National Composites Centre, SETsquared, Engine Shed and Unit DX to bring academic researchers, scientists, engineers, creatives, entrepreneurs and investors together; harnessing the city's diversity, stimulating more enterprise activity and supporting new business creation, incubation and scale-up.

Bristol and the wider Western Gateway powerhouse already have exceptional, globally recognised strengths in the development of AI, 5G, semiconductors, quantum, cyber security, robotics, visualisation / haptics and data science, and their application through innovation. These technologies will underpin the growth of the UK's future economy.

The challenge now is to continue nurturing a supportive environment that attracts the best talent, facilitates new forms of partnership between industry and academia, sparks new conversations and ideas, and joins-up the region's existing strengths and innovation capabilities so that, collectively, they achieve global impact.

Establishing new City Innovation Partnerships (CIPs) would help UoB, BCC, WECA, the Western Gateway Powerhouse and other local stakeholders to develop targeted local R&D innovation programmes to meet this challenge and secure the region's place on the global stage.

In addition, with greater local flexibility in the delivery of skills and innovation programmes, local stakeholders can move quickly to support post-COVID recovery,, supported by the introduction of a Cities Trade Package which would allow local partners to more effectively promote the city-region on the international stage.

The Temple Quarter Enterprise Campus and Innovation District

The University's new Temple Quarter Enterprise Campus (TQEC) anchors the emerging TQ Innovation District, sitting at the heart of Bristol's Temple Quarter Enterprise Zone. The new campus will enable the city region to build on its industrial strengths and achieve its wider innovation-led growth objectives.

Set to open in 2023, TQEC will create a hub of ideas, research, innovation, and co-creation, hosting the £100m Bristol Digital Futures Institute (BDFI) to co-create and implement new digital technologies and experimental research platforms; a new Quantum Technologies Innovation Centre (QTIC) to build on Bristol's world-leading research in disruptive quantum technologies; and the £46m MyWorld creative tech hub, which will position the South West as an international trailblazer in screen-based media.

Over ten-years the campus and the innovation district it enables will generate an estimated net additional gross value added for the West of England of £2Bn+ over 10 years. It will also be a catalyst for a further potential £2 billion development, underpin the creation of 22,000 jobs and 10,000 new homes across TQ over the same period.

In partnership with BCC, WECA, industry partners and other local stakeholders, the University will enable new ideas to flourish, support world leading innovation at scale and help the city-region realise its potential as a global leader in science, research, innovation and enterprise development.

Further information

University of Bristol: <https://www.bristol.ac.uk/>

National Composites Centre: <https://www.nccuk.com/>

SETsquared Bristol: <https://setsquared-bristol.co.uk/>

Engine Shed: <https://engine-shed.co.uk/>

Unit DX: <https://unitdx.com/>

Temple Quarter Enterprise Campus: <https://www.bristol.ac.uk/temple-quarter-campus/>