



Invest
**BRISTOL
+ BATH**

QUANTUM
FRONTIER

**QUANTUM TECHNOLOGY
IN THE WEST
OF ENGLAND**

WELCOME TO THE WEST OF ENGLAND

THE WEST OF ENGLAND IS AN ECONOMIC POWERHOUSE FOR THE UK AND IS HOME TO SIX BUSINESS DISTRICTS. A WORLD LEADING TALENT POOL WITH 46,000 BUSINESSES AND 28,000 GRADUATES PER YEAR.



HOME TO FIVE UNICORNS

(companies valued at over \$1bn)

Bath & North East Somerset is ranked the **best UK location for microbusiness** (Business Financed)



THE UK'S MOST PRODUCTIVE TECH CLUSTER

The West of England is home to the SETsquared Partnership, the **UK's No.1 business incubator**



In 2021 UK Research and Innovation (UKRI) **invested £296m in businesses and universities** in the West of England.



Bristol named **third largest business hub in the UK**



The University of Bristol spinouts have the **highest proportional growth** between 2022 and 2023 in the UK (Beauhurst).



Bristol is the **2nd most innovative city in the UK** (Paymentsense, innovation index), with 580 high growth companies (Beauhurst).



1.1M
POPULATION



REGIONAL
ECONOMY
WORTH OVER
£40BN



90+ DIFFERENT
LANGUAGES
SPOKEN ACROSS
THE REGION



LEADING THE UK
IN NET ZERO



86,000
STUDENTS, 4
UNIVERSITIES



48% WORKING
AGE POPULATION
EDUCATED TO
DEGREE OR
HIGHER



79 MINS FROM
LONDON

WHERE IN THE WORLD

85%
OF THE UK
within 4 ½ hours
of **Bristol & Bath**

BRISTOL AIRPORT
FLYING TO OVER
115+
DESTINATIONS

2 hr 59 mins
TO MANCHESTER
BY FASTEST
TRAIN

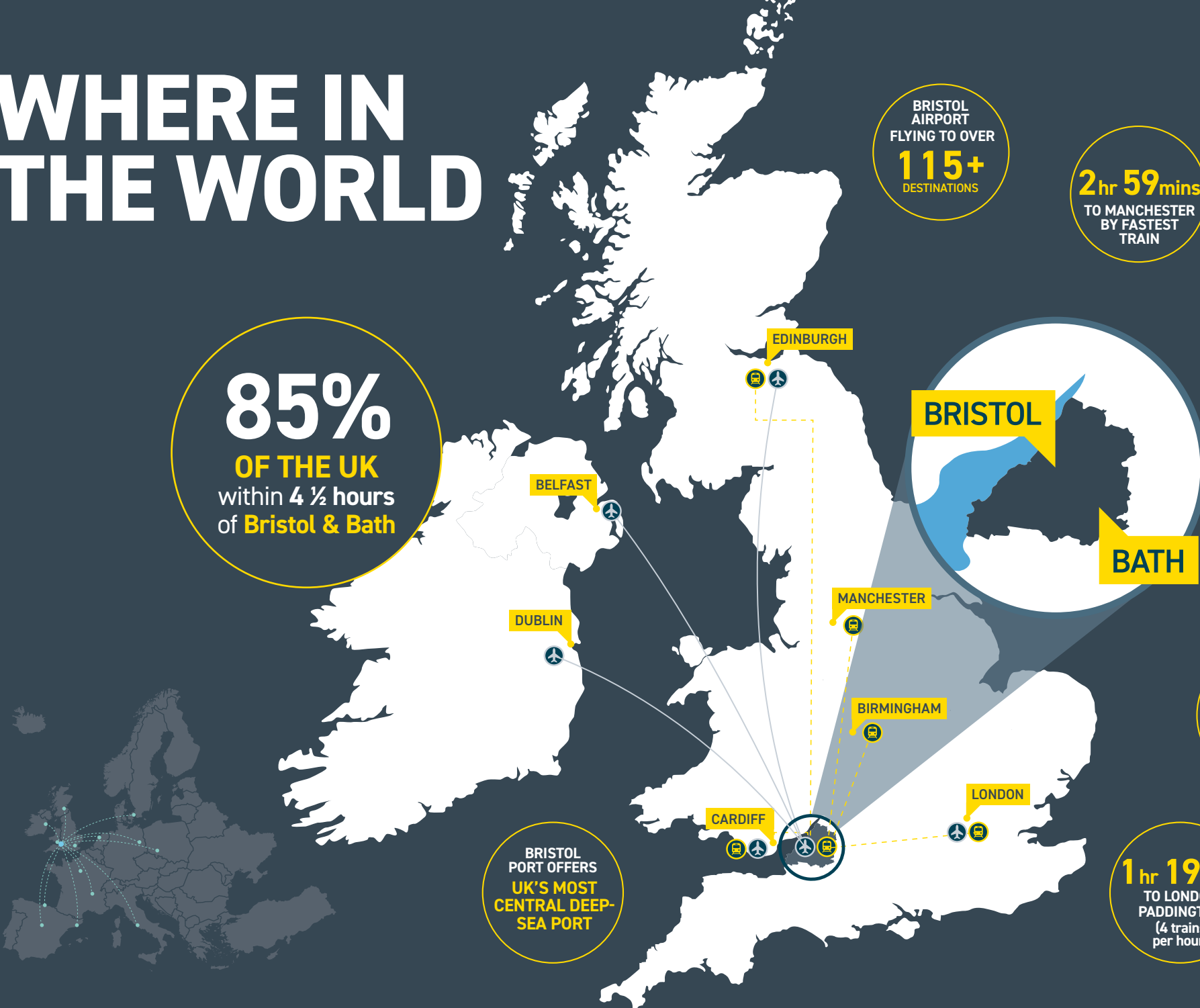
1 hr 20 mins
TO BIRMINGHAM
BY FASTEST
TRAIN

1 hr 26 mins
TO OXFORD
BY TRAIN

1 hr 45 mins
TO HEATHROW
AIRPORT FROM
BRISTOL
BY CAR

1 hr 19 mins
TO LONDON
PADDINGTON
(4 trains
per hour)

BRISTOL PORT OFFERS
UK'S MOST
CENTRAL DEEP-
SEA PORT



QUANTUM IN THE UK

THE UK IS A GLOBAL LEADER IN QUANTUM & WAS THE FIRST COUNTRY IN THE WORLD TO INVEST IN A NATIONAL QUANTUM PROGRAMME IN 2014.

Government has committed £2.5 billion to the development of quantum technologies from 2024 to 2034, more than doubling current public investment, which will aim to generate an additional £1 billion of private investment into the programme. This programme will:

- Ensure the UK is home to world-leading quantum science and engineering, growing UK knowledge and skills
- Support business, making the UK the go-to place for quantum businesses and an integral part of the global supply chain, as well as a preferred location for investors and global talent
- Drive the adoption and use of quantum technologies in the UK to deliver benefits for the economy and society, as well as our national security
- Create a national and international regulatory framework that supports innovation and the ethical use of quantum technologies, and protects UK capabilities and national security

KEY STATS:

- The UK ranks 3rd globally, in public investment in quantum technologies.
- Since 2014, over 470 postgraduate research students in quantum have been funded in the UK, with plans to support an additional 1,000 by 2033.
- The UK has the second-largest number of quantum startups, trailing only the US.
- The UK leads Europe in attracting capital investment into quantum technologies.



THE HOME OF QUANTUM

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**BRISTOL DEVELOPED THE WORLD'S
FIRST QUANTUM PHOTONICS CHIP
AND BECAME THE FIRST 5GUK TEST
NETWORK FULLY SECURED BY QUANTUM
KEY DISTRIBUTION**

- Oracle selected Bristol to host its Cloud Programme and Start-up Cloud Accelerator.
- PsiQuantum and Orca Computing, spin-outs from the University of Bristol and University of Bath respectively, highlight the region's strength in quantum innovation.
- Bristol is home to the UK's only start-up incubator focused on quantum and deep technologies.
- Strong quantum-adjacent sectors offering diverse application opportunities.
- Bristol plays a key role in the launch of several new hubs aimed at maximising the UK's potential in quantum technologies, with applications spanning from healthcare to national security.



Credit: Richard Collins & Henry Semenenko - (QET Labs, University of Bristol)

KEY STATS:

- Bristol has contributed to the creation of one-third of the UK's quantum start-ups.
- Our region ranks among the top 20 European tech hubs for venture capital funding.
- In 2022, \$258 million was invested in companies related to the sector.
- The South West is home to over 18,500 tech companies, employing approximately 105,000 people (Tech South West 2024 Prospectus).



QUANTUM FRONTIER

THE UNIVERSITY OF BRISTOL'S QUANTUM FRONTIER OPENS NEW BUSINESS OPPORTUNITIES IN QUANTUM SCIENCE, POSITIONING BRISTOL AS THE UK'S HUB FOR COMMERCIALISED QUANTUM TECHNOLOGIES.

This initiative will create networking, innovation, and collaboration within the quantum industry.

Quantum Frontier features a cross-disciplinary team of over 150 academics, along with dedicated support services and state-of-the-art facilities at the Quantum Technologies Innovation Centre, the UK's first incubator for quantum technologies.

MEMBERS INCLUDE:

- PsiQuantum, one of the world's largest dedicated quantum companies, with a valuation of \$3.5 billion, and founded in Bristol.
- West of England Combined Authority, which has invested £35 million into a new quantum facility in Bristol.

COMPANIES WE WORK WITH:

- Axelera
- KETS Quantum
- Light Trace Photonics
- Phasecraft
- QLM
- Qontrol

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QUANTUM
FRONTIER

CASE STUDY: Duality Quantum Photonics

A PIONEERING REGION FOR DEEP-TECH



Launched in 2019 Duality

Quantum Photonics

conceives, designs, and manufactures quantum photonic solutions to the hard problems facing businesses, societies, and the world. Pioneered by the company founders, quantum photonic chips allow dense integration of light guiding components to process quantum information contained within single particles of light. These novel technologies harness quantum mechanics, our most fundamental description of the universe, unlock profound new solutions and opportunities at the convergence of computing, communications, and sensing, that are forever out of the reach of digital electronics.

DualityQP is working with businesses to develop ultra-fast processors to tackle today's most important challenges including barriers to clean energy generation and efficient data networks. Devices are designed at DualityQP's Bristol HQ, located in the heart of the city, and manufactured by DualityQP's engineers at our sister site in Southampton.

"The Bristol region is without doubt the best place for us to establish a deep-technology business. Surrounded by great universities and one of the most attractive places to live in Europe, accessing talent and growing our skills base here is made easy and simple. If you are interested in understanding how our technology could help your business, get in touch at helloworlds@dualityqp.com"

Anthony Laing, CEO

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QUANTUM TECHNOLOGIES IN THE WEST OF ENGLAND

SWANSEA, CARDIFF, NEWPORT

CHELTENHAM, BIRMINGHAM, GLOUCESTER

CENTRES OF EXCELLENCE

KEY BUSINESSES

TESTBEDS, APPLICATIONS & DEVELOPMENTS

REGIONAL ASSETS

BRISTOL PORT

5G Logistics Testbed

BRISTOL

BRISTOL TEMPLE MEADS

BRISTOL AIRPORT

WESTON-SUPER-MARE

Hinkley Point C

BATH

Somer Valley Enterprise Zone

SWINDON, LONDON, OXFORD

SALISBURY

GCHQ

M4

M48

M4

M49

M5

M4

M32

M5

A4

Academic Centre of Excellence in Cyber Security Education

Bristol Robotics Laboratory

DRAGON - Data Security and Management Research Centre

Future Space

GKN Global Technology Centre

Health Tech Hub

UWE - Institute of Biosensing Technology

Bristol and Bath Science Park

CFMS

Compound Semiconductor Applications Catapult (Future Telecoms Hub)

Isambard3 & Isambard AI Supercomputers

National Composites Centre

Vectura

Zenotech

Digital Engineering Technology & Innovation

Airbus

Altered Carbon

BAE Systems

Boeing Defence UK

Fluoretiq

GKN

HP Enterprise

KETS Quantum

Leonardo UK

QinetiQ

Rolls Royce

Thales

YTL Developments (Brabazon)

Ministry of Defence

University of the West of England (UWE)

Centre for Autonomous Robotics

Centre for Photonics & Photonics Materials

Fibre Fabrication Facility

SETSquared Bath

Ingenium AI

Prothea

Riverside Enterprise Area

Bath Spa University

University of Bath

Atmo Technology

Axelera AI

BT

Duality Quantum Photonics

Extracellular

Graphcore/Arm

HP Labs

Light Trace Photonics

Nephelie Technologies

Phasecraft

QLM

Qontrol

Siloton

Toshiba Labs

Zero Point Motion

Academic Centre of Excellence in Cyber Security Research

Bristol BioDesign Institute

Bristol Quantum Information Institute

Digital Catapult

Nanoscience and Quantum Information Centre

Pfizer Centre of Epidemiology Excellence

Quantum Technology Innovation Centre

Quantum Engineering Technology Labs

Science Creates Old Market

Science Creates St Philips

SETSquared Bristol

Smart Internet Lab

UK Telecoms Innovation Network

University of Bristol

Connected Places Catapult Station Innovation Zone

New Quantum Technology Innovation Centre (opens 2026)

Projekt

Science Creates OMX

UK Telecoms Innovation Network (UKTIN)

University of Bristol Temple Quarter

INNOVATION IN THE WEST OF ENGLAND

THE WEST OF ENGLAND IS AN AMBITIOUS INTERNATIONAL INNOVATION REGION WHERE HIGHLY SKILLED PEOPLE LIVE, IDEAS FLOURISH AND BUSINESSES GROW.

Our **Plan for Innovation** sets out how over the next five years, the West of England can capitalise on our place-based advantages, sector strengths and enabling technologies to create innovation-led solutions for our region's pressing challenges and priorities.

Quantum technologies have been recognised as one of the West of England Combined Authority's key internationally significant strengths.

The plan outlines how advancements in the quantum sector can drive progress toward regional goals, such as decarbonizing the energy system and boosting innovation-led exports, and how we can support the sector to grow.

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A WORLD-LEADING TALENT POOL

The region is home to four world-class universities attended by over 85,000 students, of which over 19,000 are studying Science, Technology, Engineering, and Maths (STEM) subjects.

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University of Bristol ranked #55 Globally and #9 UK (QS World University Rankings 2023).
7th for UK graduate employability with alumni being amongst the highest paid graduates in the UK.



University of Bath named University of the Year 2023, and in the top 5 in the UK for student satisfaction (86.6%).
Ranked 4th in the UK for employment after six months (Guardian University Guide 2020).



University of the West of England (UWE) Bristol ranked joint second in England for student satisfaction (National Student Survey 2020).
Circa 76% of UWE research is ranked 'internationally excellent' or 'world leading'.



Bath Spa University is one of the greenest universities in the UK (Uswitch Green Universities Report 2022).
Bath Spa University has been named as the University of the Year for Social Inclusion by The Sunday Times Good University Guide 2024.

DEVELOPING QUANTUM TALENT

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THE QUANTUM SECTOR FACES A SIGNIFICANT TALENT SHORTAGE, WITH DEMAND FOR SKILLED PROFESSIONALS OUTPACING SUPPLY BY UP TO 3 TO 1.

To tackle this, the region is driving initiatives such as the Bristol Quantum Information Institute. It is one of two UKRI-funded Centres for Doctoral Training (CDTs) in quantum engineering, hosting over 60 active PhDs and creating strong industry connections. The institute serves as a hub for more than 150 researchers, working from foundational quantum theory to real-world innovations.

KEY INITIATIVES INCLUDE:

- Undergraduate training: Approximately 200 students currently studying Quantum Information Theory.
- MSc in Optoelectronic & Quantum Technologies: Around 50 graduates to date.
- Quantum Information Science and Technologies CDT: A key driver of talent development.

A WELL-ESTABLISHED GRADUATE PIPELINE:



The University of Bristol has graduated 46 PhD students, with 68 more in progress.



22 graduates are working within quantum start-ups.



4 graduates have founded their own companies.



16 are continuing in leading academic institutions.



Over 100 months of industrial placements have been completed.

QUANTUM-READY UNIVERSITY TALENT

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STUDENTS ARE EXPOSED TO QUANTUM CONCEPTS ACROSS A VARIETY OF NON-SPECIALISED COURSES:

- Computer Science programmes introduce basic quantum computing.
- Electronic and electrical engineering students study the quantum proof of Maxwell's equations.
- All physics graduates receive foundational education in quantum mechanics.

Within an hour of the region, six additional universities produce over 22,000 graduates annually in Science, Technology, Engineering, and Mathematics (STEM) fields.

The West of England is renowned for its strong student retention rate (around 35%), contributing to a robust local talent pipeline.

RECENT DATA (2022/23) FROM THE UNIVERSITY OF BRISTOL SHOWS:



- 1,635 Physical Sciences students
- 1,430 Mathematical Sciences students
- 3,140 Engineering & Technology students
- 1,390 Computing students

RECENT DATA (2022/23) FROM THE UNIVERSITY OF BATH SHOWS:

- 1,340 Physical Sciences students
- 1,065 Mathematical Sciences students
- 3,155 Engineering & Technology students
- 1,325 Computing students

QUANTUM TECHNOLOGY EMPLOYERS & SKILLSETS

QUANTUM TALENT POOL DATA

SIGNIFICANT EMPLOYERS IN THE REGION INCLUDE:

- Airbus
- AxeleraAI
- BAE Systems
- BT
- Duality Quantum Photonics
- Dyson
- Graphcore / Arm
- HP
- Immersive Labs
- KETS
- Light Trace Photonics
- Oracle
- pax8
- Phasecraft
- PsiQuantum
- QLM
- Qontrol
- Rolls Royce
- Siloton
- Techmodal
- Toshiba
- Zero Point Motion

THE REGION BOASTS A LABOUR MARKET WITH QUANTUM SKILLS IN THE FOLLOWING AREAS:

- Communications
- Cryptography
- Electronic Hardware Architectures (VLSI, FPGA, ASIC)
- Information Processing
- Integrated Circuits (Bipolar, CMOS, PIC)
- Optoelectronics
- Photonics
- Sensing
- Signal processing

CANDIDATE NUMBERS:

- United Kingdom – 31,000
- France – 9,900
- Germany – 14,000
- Spain – 6,400
- Portugal – 1,600



Data source:

CASE STUDY: CFMS

FIRST QUANTUM KEY DISTRIBUTION TRIAL FOR MANUFACTURING ACHIEVES SUCCESS

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The UK's first industrial quantum-secure network, developed by the DETI partnership—which includes

CFMS, BT, and Toshiba Europe Ltd—has successfully transmitted live data for remote manufacturing using Quantum Key Distribution (QKD) during a two-month trial.

This marks the first demonstration of such capability with 'off-the-shelf' components and represents the initial phase of a programme aimed at advancing the practical use of QKD technology to promote the development of smart factories.

The trial involved routing data through a 7km QKD-enabled encrypted tunnel between the National Composites Centre (NCC) and CFMS sites. This setup facilitated the remote operation of the NCC's composites Overbraider machine, a complex device that weaves carbon fibre strands from 288 spools to produce precision hollow composite components, such as aircraft engine blades.

During the trial, CFMS used the QKD system to transmit encryption keys to the NCC, enabling the sharing of production data. The QKD system's ability to distribute thousands of cryptographic keys per second allowed both the data and the quantum keys to travel over the same fibre, eliminating the need for expensive dedicated infrastructure.

SECTOR OVERLAPS

COMMUNICATIONS



KEY COMPANIES:

- BT
- Toshiba

KEY ACTIVITIES/APPLICATIONS:

- Satellite-based quantum communications
- Quantum communications at novel wavelengths and the development of new protocols
- Securing satellite-to-ground and satellite-to-satellite communications using quantum technology
- Quantum navigation to prevent hacking of GPS signals
- The Ministry of Defence's £6bn Skynet project, expected to create over 400 jobs in the South West

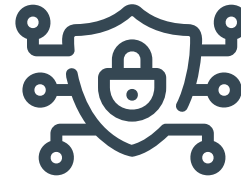
KEY FACILITIES:

- The Smart Internet Lab, one of the UK's leading ICT research centres
- CSA Catapult

NETWORKS:

- Bristol Digital Futures Institute
- Digital Catapult
- UK Telecoms Innovation Network (UKTIN)

CYBER



KEY COMPANIES:

- Immersive Labs
- Techmodal
- KETS Quantum
- Airbus Space & Defence

KEY ACTIVITIES/APPLICATIONS:

- Leonardo's UK headquarters for Cyber Security
- Cheltenham, just 35 minutes away, boasts one of the highest concentrations of cyber and digital businesses outside London

KEY FACILITIES:

- GCHQ, the UK's cyber security headquarters
- Home to the Ministry of Defence's largest site
- University of Bath Institute of Coding
- University of Bristol Academic Centre of Excellence in Cyber Security Research
- UWE Academic Centre of Excellence in Cyber Security Education

NETWORKS:

- Bristol Cyber Security Group
- Bristol & Bath Cyber

SECTOR OVERLAPS

ARTIFICIAL INTELLIGENCE

KEY COMPANIES:

- Graphcore / Arm
- AxeleraAI
- Smartia
- Cloudfind



KEY ACTIVITIES/APPLICATIONS:

- Graphcore was founded in Bristol in 2016

KEY FACILITIES:

- Isambard3 Supercomputer
- IsambardAI Supercomputer (UK's fastest)
- Interactive AI Centre for Doctoral Training at University of Bristol
- Accountable, Responsible and Transparent AI Centre for Doctoral Training at University of Bath

NETWORKS:

- Bristol & Bath AI
- AI West

COMPUTING

KEY COMPANIES:

- Duality
- HP Labs
- Phasecraft
- CFMS



KEY ACTIVITIES/APPLICATIONS:

- Transportation: logistics & distribution
- FinTech/Finance: providing secure communications, optimisation algorithms for trading

KEY FACILITIES:

- Quantum Engineering Technology Labs

CENTRES OF EXCELLENCE

THE WEST OF ENGLAND HAS A WEALTH OF DEDICATED, OPEN-ACCESS CENTRES OF EXCELLENCE TO SUPPORT COMPANIES TO DEVELOP AND COMMERCIALISE THEIR TECHNOLOGIES.

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The Quantum Technology Innovation Centre is a world-leading pre-incubator for innovators in quantum-inspired and deep technologies. It offers affordable, high-spec dry laboratory spaces, advanced equipment (such as oscilloscopes, optical and RF sources), workspaces, meeting rooms, and access to a network of cutting-edge companies in quantum and deep tech.

Quantum Engineering Technology Labs (QET Labs) focuses on accelerating the application of quantum technologies, developing new hardware and capabilities that leverage quantum phenomena, and exploring fundamental quantum information science through advanced technologies.

The Bristol Centre for Nanoscience and Quantum Information (NSQI) is the University of Bristol's dedicated research hub for activities in nanoscience and quantum information.

The University of Bath's Centre for Photonics and Photonic Materials conducts world-leading research in the science and technology of light, including quantum optics.

The UK Telecoms Innovation Network (UKTIN) serves as the UK's innovation hub for the telecoms sector, connecting industry, academia, and government to drive research, investment, collaboration, and commercialisation of telecoms technologies.

CENTRES OF EXCELLENCE

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The Bristol Robotics Laboratory is an internationally recognised centre of excellence for advanced robotics research, boasting the largest facility of its kind in the UK, spanning over 50,000 square feet.

The Compound Semiconductor Applications Catapult's Future Telecoms Hub supports companies in developing telecoms hardware.

Digital Catapult's quantum computing team partners with industry to identify practical use cases, provide education, and guide participants in becoming "quantum ready." The QTAP programme offers training, access to quantum technology, use case development, and ecosystem building for UK businesses.

The National Composite Centre features state-of-the-art 5G-enabled industrial test beds, providing real-world data for testing, and demonstrating the potential of quantum computing to address industrial challenges.

Smart Internet Lab is one of the UK's leading ICT research centres, with 200 experts specialising in areas across future mobile networks, optical networks, quantum communications and data centre infrastructures. The Lab is currently leading on 6G and quantum networking in the UK, offering city and national-scale testbed infrastructures for early technology and use-case demonstrations and pilots. The Lab is collaborating widely with industry, academia, and Government to drive innovation, regulation, and adoption of these emerging technologies.

The Centre for Modelling and Simulation (CFMS) is an independent digital engineering research organisation. CFMS offers a comprehensive range of digital engineering services, including design, modelling, and analysis, supported by a secure on-site data centre. It is at the cutting edge of digital innovation, helping to develop more effective engineering solutions.

QUANTUM TECHNOLOGIES INNOVATION CENTRE (QTIC)

A £35 MILLION INVESTMENT FROM LOCAL GOVERNMENT WILL FUND THE QUANTUM TECHNOLOGIES INNOVATION CENTRE (QTIC), THE UK'S LARGEST DEDICATED FACILITY FOR QUANTUM TECHNOLOGIES INNOVATION.

Set to open in 2026, it will be a key component of the £500 million University of Bristol Temple Quarter Enterprise Campus.

The centre is projected to deliver £232 million in added economic value over ten years and create over 300 jobs.

QTIC will offer comprehensive capabilities for the engineering, design, prototyping, integration, manufacturing, and commercialisation of advanced quantum technologies.

The new campus will serve as a cornerstone of the broader Temple Quarter Enterprise Zone, which includes other innovation hubs such as Projekt, Engine Shed, MyWorld, and Science Creates.

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QUANTUM TECHNOLOGIES INNOVATION CENTRE (QTIC) IMPACT

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AXELERA AI RAISES \$68 MILLION SERIES B FUNDING TO ACCELERATE NEXT-GENERATION ARTIFICIAL INTELLIGENCE

July 2024 - Axelera AI announces its successful close of an oversubscribed \$68m Series B financing round, bringing the total amount raised to \$120m.

QLM RAISES £12M IN SERIES A FUNDING AND STRATEGIC COLLABORATION

Aug 2022 - QLM announces £12m Series A funding and strategic collaboration to advance detection of greenhouse gas emissions.

SILOTON'S DR ALASDAIR PRICE AND DR EUAN ALLEN AWARDED 2023 INSTITUTE OF PHYSICS CLIFFORD PATERSON MEDAL

Oct 2023 - Dr Alasdair Price and Dr Euan Allen of Siloton Ltd recognised for 'exceptional early-career contributions to the application of physics in an industrial or commercial context'.

ZERO POINT MOTION AND UWE WIN GRANT FOR VIRTUAL REALITY PROJECT DIGIBEAT

Nov 2022 - Zero Point Motion teams up with the University of the West of England to explore the use of inertial sensors that measure motion for virtual reality.

PHASECRAFT ANNOUNCES £13M SERIES A FUNDING ROUND TO REACH PRACTICAL QUANTUM ADVANTAGE

Aug 2023 - Phasecraft announces closing of its £13m Series A funding round led by Silicon Valley deeptech VC, Playground Global.

CASE STUDY: KETS

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KETS Quantum Security is a multi-award-winning start-up from the Quantum Engineering Technology Labs (QETLabs) at the University of Bristol. As one of the first companies to spin-out of the UK National Quantum Technology Programme, KETS' mission is to secure communications using future-proof, scalable, and easily deployed quantum-safe solutions using tiny photonic microchips at their heart. The company is building on almost 20 years of world-leading research at the University of Bristol and has developed some of the world's first chip-based quantum secured encryption technologies – from quantum random number generators to full quantum key distribution devices.

KETS' team has had significant success since starting up and has benefitted from support from the SETSquared, UnitDX, and QTEC incubators, as well as international acceleration programmes. Having raised over £5.5m of equity and over £4.5m of grant funding, the company is now selling its first-of-a-kind products internationally to multinational telecommunications customers.

“Quantum-safe technologies are key to protecting our communications, we don’t go 30 seconds these days without touching some kind of networked technology. KETS has been able to grow very successfully in this region, with access to support, talent, and funding both regionally and internationally. With such a new and nascent field as quantum technology, the support of the ecosystem has been instrumental to our growth at each step along the way. This is a great region to recruit into, for its culture and lifestyle offering, and we plan to continue to grow here with our HQ in Bristol.”

Chris Erven, founder, and CEO

FABRICATION AT THE UNIVERSITY OF BATH

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THE UNIVERSITY OF BATH HAS A RESEARCH-GRADE FACILITY FOR MAKING OPTICAL FIBRE.

The facility can produce a wide variety of fibres, many of which differ significantly from conventional telecommunications fibres and often feature microstructures. It processes raw materials, such as silica glass tubes and doped silica rods, into flexible optical fibres that transmit light along their length.

- One of just two facilities of its kind at UK universities
- Dedicated fibre fabrication workshop for industrial applications
- Facility available for external use and consultancy
- PhD students receive training in fibre fabrication

- Development of the first hollow-core optical fibre
- Research includes fibre-based photon pair sources, hollow-core fibres for atomically mediated quantum state processing, quantum frequency conversion, squeezing, and low-loss communications

PATHWAY TO OPPORTUNITIES

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Credit: Science Creates

Science Creates' new £8.5 million facility, OMX, will offer cutting-edge amenities for spin-out companies. Scheduled for completion in September 2025, this state-of-the-art facility will feature wet labs, high-security areas, and ultra-fast computer networking, supporting companies in quantum, biotech, and AI sectors. The 30,000 square feet of new space will complement the existing 45,000 square feet, providing an incubator for approximately 275 spin-out companies and promising a significant economic boost to the region.



Credit: National Composites Centre

IsambardAI, launched in Bristol in 2024, is the UK's fastest, most powerful, and most sustainable supercomputer. Its pioneering technology positions the UK as a global leader in artificial intelligence, and users of IsambardAI are poised to cultivate a future customer base for quantum computing.



Credit: Mission Street

Projekt is a new development led by Mission Street, a leading UK investor, developer and operator of science and innovation real estate. The proposed scheme, situated in central Bristol will be the first major commercial innovation building in the South West providing 110,000 square feet of wet labs, dry labs, office spaces, and collaborative areas.

TEST BEDS

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OUR REGION IS HOME TO QUANTUM READY TEST-BEDS, WITH SOME PILOTS ALREADY BEING DELIVERED.

LOGISTICS:

Avonmouth & Severnside covers approximately 1,800 hectares (nearly 4,500 acres) dedicated to distribution, logistics, and manufacturing. A study is underway to explore how 5G technology can enhance efficiency and productivity in the logistics sector. By assisting smaller companies in developing tailored 5G private networks, we aim to diversify the supply chain and enable businesses to adopt these transformative communications networks more quickly.



TELECOMS:

A £10 million investment has been made to establish the UK Telecoms Innovation Network (UKTIN); an initiative aimed at creating innovation within the country's telecoms supply chain.

The Future Telecoms Hub will focus on improving the energy efficiency and security of telecoms hardware, addressing critical needs for robust, resilient, and environmentally friendly future networks.



AEROSPACE:

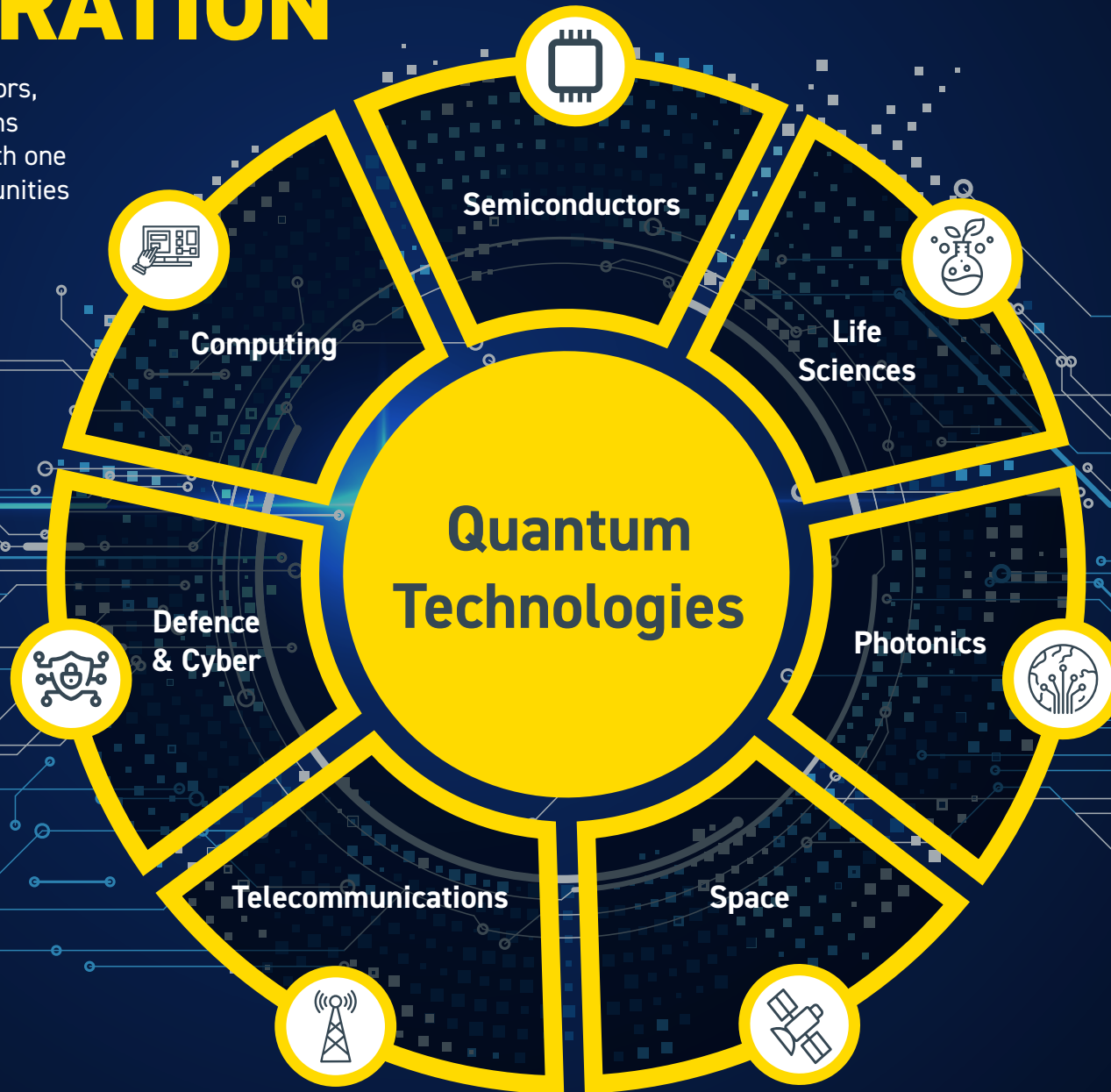
Opportunities in quantum sensing, communications, cybersecurity, robotics, and computing are available within the UK's largest aerospace sector, which includes major companies like Airbus, Boeing, BAE Systems, Rolls Royce, and GKN.



APPLICATIONS AND COLLABORATION

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Our region excels in a range of sectors, each of which has strong connections with quantum technologies—and with one another—offering significant opportunities for growth and collaboration.



WIDER SOUTH WEST ACTIVITY

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Western Gateway is a pan-regional partnership encompassing South West England and South Wales. These areas collectively outperform the UK and EU averages on the EU Innovation Index, with South West England hosting 52.5% of the UK's high-growth businesses.

The South West region has a strong focus on cyber technologies, highlighted by the **Golden Valley Development**, which includes the **National Cyber Innovation Centre** and **GCHQ** in Cheltenham, as well as the UK's first business-led cyber centre in Wiltshire.

In nearby South Wales, **Newport** boasts a prominent **semiconductor cluster**, featuring KLA Corporation's SPTS Technologies R&D and manufacturing facility with over 500 employees, and the Wafer Fab factory recently acquired by Vishay. Newport is also home to the headquarters of the **Compound Semiconductor Applications Catapult**.

A PLACE TO SCALE UP

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**ONE-THIRD OF THE UK'S
QUANTUM START-UPS HAVE
BENEFITED FROM SUPPORT IN
OUR REGION.**

Our region boasts the highest survival rate for small and medium-sized enterprises (SMEs) in England.

The **Quantum Technology Innovation Centre (QTIC)** is a leading pre-incubator for quantum-inspired technologies. QTIC companies have raised £107 million in equity, contracts, and grant funding.

Overall, the region has attracted over £2 billion in tech investment since 2020.

Science Creates provides state-of-the-art incubators that feature purpose-built laboratories, flexible office spaces, and advanced instrumentation. Managed by a specialised in-house team, these facilities offer mentoring, expertise, and resources to drive scientific innovation and business growth.

SETsquared (Bristol & Bath) is a globally renowned business incubator. Since its inception in 2002, it has supported over 5,000 entrepreneurs and helped them secure £5 billion in investment. Independent research estimates the economic impact of SETsquared-supported companies at £15.7 billion, contributing to the creation of 15,600 jobs.

Future Space, an award-winning innovation centre at the University of the West of England, supports high-tech businesses at the forefront of advanced engineering, health and life sciences, digital, green, and creative technologies.

KEY ACHIEVEMENTS INCLUDE:

- £25 million secured to fund 100 quantum PhDs
- £35 million invested in quantum facilities and equipment
- £4.5 million allocated to collaborate with 3 of the 5 new UK quantum research hubs
- £8.5 million secured for a new Science Creates incubator
- 28 early-stage quantum companies established

SILICON GORGE

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SILICON GORGE - SPANNING THE AREA BETWEEN BRISTOL, SWINDON, AND GLOUCESTER - IS RENOWNED FOR ITS DENSE CLUSTER OF HIGH-TECH AND RESEARCH COMPANIES AS WELL AS ACCESS TO FINANCING.

The region's involvement in the semiconductor and deep tech sectors dates back to 1972, when a Californian microchip company (Fairchild Semiconductor)—whose founders later established Intel—relocated here. This move paved the way for the launch of the pioneering silicon chip developer Inmos in Bristol in 1978.

Silicon Gorge also represents a pitching competition that culminates in an Investor Showcase, highlighting the most promising early-stage startups in the region seeking between £100k and £2m in funding.

Notable alumni of Silicon Gorge include Immersive Labs and Huboo, which raised £68 million and £60 million respectively in 2021.

INVESTOR GROUPS / FUNDS

- SCVC
- South West Investor Fund
- Mercia Asset Management
- Maven Capital Partners
- BGF
- Bristol & Bath Regional Capital
- QantX
- Angel Investors Bristol



WEST OF ENGLAND COMBINED AUTHORITY GRANTS

- Business Innovation Fund
- Business Growth & Adaptions Grant
- Carbon Surveys

The SETsquared Partnership universities and leading regional investment firm QantX announced a new £300m spin-out focused investment vehicle to catalyse the creation and growth of science and technology companies addressing global challenges.

NETWORKS

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techSPARK is a not-for-profit network dedicated to generating the growth of the tech ecosystem in Bristol and Bath.

It assists both large and small companies by providing access to talent, knowledge, and growth solutions through various events and programmes.

Bristol Innovations serves as the University of Bristol's innovation catalyst, offering businesses access to cutting-edge research, technology, and talent. Its focus areas include Quantum Technologies, Future Telecoms, and Advanced Materials.

Bristol Digital Futures Institute has secured £100 million in funding from Research England, along with support from civic, business, and charity partners. This includes a £29 million investment from Research England's UK Research Partnership Investment Fund.

Bristol & Bath Cyber is a not-for-profit community that unites cyber entrepreneurs, employers, practitioners, educators, investors, and collaborators across the region. It is dedicated to connecting, educating, and strengthening the cyber ecosystem.

Space West is a regional consortium of academic and industry partners designed to accelerate growth and innovation in the space sector within the region and nationally. The Space West programme hosted by the National Composites Centre, in partnership with West of England Combined Authority, the Centre for Modelling and Simulation, the University of Bath, the University of Bristol and the University of the West of England.

South West Regional Defence and Security Cluster enhances the visibility and profile of regional defence and security capabilities, aiming to boost sector knowledge, economic growth, and productivity across the South West. It seeks to attract businesses of all sizes interested in defence and security to develop new sector and cross-sector capabilities.

A GREAT PLACE TO LIVE

Invest
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+ BATH

THE WEST OF ENGLAND
IS WELL KNOWN FOR ITS
DESIRABLE BLEND OF RURAL
AND URBAN LIVING.



Credit: Anna Barclay & Freia Turland

Bath is the UK's best city for raising a family and a top choice for Londoners relocating, known for its Georgian and Roman architecture. For beachside living near Bristol and Bath, explore Weston-super-Mare, Clevedon, and Portishead in **North Somerset**.



Credit: Anna Barclay & Freia Turland

Bristol, known for its vibrant arts scene and Banksy's work, is often called the UK's "coolest city" and has won multiple "best place to live" awards. **South Gloucestershire** offers a blend of rural and urban living with market towns, historic sites, and countryside.

OPPORTUNITY HIGHLIGHTS

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QUANTUM PEDIGREE:

- World-leading Quantum graduate and doctoral training
- Established Quantum supply chain
- Diversity of specialisms, providing collaboration opportunities and clients



TESTBEDS AND APPLICATIONS:

- Logistics
- Aerospace
- Telecomms



SCALING UP:

- Numerous Quantum incubators and accelerators
- Strong investment track-record



INVEST IN BRISTOL + BATH

A confidential and complimentary service.



International business

Benefit from our partnership with the Department for Business & Trade, connecting you to UK government and business support.



Regional partners

We can arrange regional visits to help you make informed investment decisions, showcasing our collaborative and welcoming environment.



Talent and education

With a highly skilled workforce, we offer detailed analysis of our talent pool, including all experience levels and educational institutions.



Regional visits

Connect businesses with stakeholders and partners across the South West to support your investment and business case.



Property solutions

We can help you relocate teams, set up new centres, or find office, industrial, or development sites, offering tailored property solutions from phased growth to fully functioning properties.



Industry connections service

Get a head start with introductions to business support and recruitment providers.



Sector specialists

We connect you to business experts in Aerospace, Advanced Engineering, Creative & Media, Tech & Digital, Nuclear, and Fintech.



Networks

Collaborate with industry networks, R&D assets, and trade associations. Connect with like-minded businesses and raise your profile.

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WHO'S ALREADY HERE:

NETFLIX 

GRAPHCORE 

 **EDF** **AIRBUS**

ultraleap  

 **LettUs
GROW** **ORACLE**

**HARGREAVES
LANSDOWN** 

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Inward Investment specialists who can facilitate introductions to the West of England Quantum Technology sector.

Tap into our extensive network and learn why our region is thriving. If you're considering setting up here, we offer expert guidance, connections, and support.



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