

# Invest West Midlands

## DATA-DRIVEN HEALTHCARE



**A leading UK centre of Data-Driven Healthcare expertise and innovation. Offering companies the ability to design, test and commercialise their innovation, from bench to bedside.**

Employing over 17,000, the region's multidisciplinary, urban-centred healthcare ecosystem offers businesses a stand-out speed-to-market opportunity. From early concept to clinical testing and manufacturing, the West Midlands uniquely supports every step of the development cycle, from "bench to bedside".

Spearheading the region's Data-Driven Healthcare proposition are three distinct pillars of opportunity: digital, diagnostics and devices. Through unrivalled access to electronic clinical and genomic data of scale from a 5.5million-strong, non-transient patient population, the opportunities to test and implement new and impactful healthcare interventions in the West Midlands are endless. This is underscored by one of the most advanced electronic patient record systems in the UK, aggregated by University Hospitals Birmingham (UHB).

Of all the West Midlands' healthcare specialisms, med-tech presents the greatest opportunity, accounting for 61% of the region's healthcare sector and 8% of the UK's overall turnover in the field. The region has successfully translated its skills base - as the manufacturing heartland of the UK - into a leading proving ground for the prototyping, testing and manufacture of medical devices.

### Key Strengths

#### Large-scale local healthcare system

Eight hospitals combine with over 35 regional centres of clinical research excellence to make the West Midlands a hotspot for healthcare innovation and expertise, with one in five of all UK trials carried out in the region.

#### Specialist talent

Benefitting from a large-scale urban environment, the West Midlands' data-driven healthcare sector employs 17,320 people across 600 businesses, creating a substantial, knowledgeable talent pool to recruit from. Meanwhile, five leading universities produce over 11,000 graduates in medical sciences each year, and a further 6,000 graduates in the engineering and computing fields.

#### Accessible patient data

The ability to digitise and integrate clinical and genomic data harnessed from a 5.5million population, creates a major opportunity to analyse and improve healthcare technologies for practitioners, institutions, and patients, quickly.



**The West Midlands is the UK's only large-scale 5G test-bed – a catalyst for accelerated testing of digital healthcare products.**

#### Manufacturing skills base

Device manufacturing is the latest highlight in a long history of manufacturing innovation that anchors the West Midlands economy. The home of the Industrial Revolution, the region has harnessed its world-class supply chains and expertise in AI, robotics, and sensor technology to design, build and commercialise medical devices.

#### Access to clinical expertise

Home to the Birmingham Centre for Clinical Trials, the region has one of the world's largest concentrations of clinical trial activity for both drugs and medical devices. Birmingham Health Partners (BHP) has been recognised by Government for its world-class research infrastructure, which brings together academics from the University of Birmingham, clinicians from University Hospitals Birmingham and Birmingham Women's and Children's NHS Foundation Trusts, and industry.



**The Queen Elizabeth Hospital in Birmingham has the largest single critical care unit in Europe, the largest solid organ transplant programme in Europe, the largest renal transplant programme in the United Kingdom and is the national centre for trauma and defence medicine.**

## Opportunities

### Digital Health

An early adopter of digital technologies, the West Midlands offers access to an integrated and curated clinical and genomic patient data set from a substantial, stable and diverse patient population of over 5.5million. The region's skilled med-tech ecosystem offers companies working on data-driven health-tech innovations a robust landscape to test and validate new technologies, supported by key institutions – such as University Hospital Birmingham, which is futureproofing care pathways for industry to adopt AI solutions. As such, a growing eco-system exists of businesses advancing wearable devices and remote monitoring; diagnostic tools for both hospitals and the community; and mobile apps for education or therapeutic guidance.

Underpinning all of this is lean data capture; the region boasts three Global Digital Exemplar institutions, two of the UK's Health Data Research Centres – PIONEER and INSIGHT – and the Genomics Networked Information Exchange (GeNIE), which integrates genomic data across 17 trusts.

### Health Data Research Hubs (HDR) - PIONEER & INSIGHT

Health Data Research Hubs are centres of excellence with expertise, tools, and knowledge in maximising insights and innovations developed from health data; the West Midlands is home to two of these hubs. PIONEER is focused on acute care, providing accurate and real time data for capacity planning and service provision. Meanwhile, INSIGHT is focused on eye health data including diabetes and dementia. Both HDR's are open to working with academic partners, public and commercial organisations.

### Medical Devices

The region's long-standing industrial strengths have cultivated interdisciplinary opportunities across all of its industries – especially in med-tech, where access to the region's £10.4bn manufacturing cluster and skills base – the largest in the UK – has allowed companies with innovative devices and technologies to design, test and commercialise their innovation, from bench to bedside. The West Midlands subsequently has an established cluster of expertise in assisted living technologies, ophthalmic products and imaging, as well as consumables for surgical procedures.



**The dominant healthcare sub-sector, med-tech accounts 61% of the region's healthcare sector and 8% of the UK's overall turnover in the med-tech segment, with a GVA of £1.7bn.**

### Diagnostics

The West Midlands has a world-class diagnostic evolution opportunity to design, develop and validate diagnostics solutions, driven by a number of world renowned, dedicated centres of diagnostic excellence. The West Midlands Genomic Medicine Centre is the largest genomics lab hub in the country, integrating clinical genetic data from 16 trusts, meanwhile, the Birmingham Precision Medicine Centre harnesses clinical expertise to accelerate the development of innovative diagnostics and targeted healthcare. Success stories include The Binding Site, a diagnostics company spun out of the University of Birmingham, which now provides services to 100 countries worldwide. AltaBioscience and MicroPathology are examples of other established diagnostics companies emerging in the region.

### Centres of Excellence

With an enormous scale of research facilities clustered around world-class academic institutions, the region's healthcare ecosystem is accessible to the private sector and particularly attractive for companies interested in R&D collaborations and product or service evaluation. The region's substantial NHS footprint – which includes the largest critical care unit in Europe via the Queen Elizabeth Hospital – and private healthcare providers such as BUPA, BMI and BHSF, offer a large market for innovation and adoption.

### Birmingham Health Partners

Birmingham Health Partners is a strategic alliance between University Hospitals Birmingham NHS Foundation Trust, University of Birmingham and Birmingham Children's Hospital NHS Foundation Trust, bringing together clinical, scientific and academic excellence across an integrated medical and life sciences campus. The Queen Elizabeth Hospital in Birmingham has the largest single critical care unit in Europe, the largest solid organ transplantation programme in Europe, the largest renal transplant programme in the United Kingdom and is the national centre for trauma and defence medicine.

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### **West Midlands NHS Genomic Medicine Centre**

Originally part of the 100,000 Genomes Project, this is the largest genetics lab in the country. The Genomic Medicine Centre is a leader in transforming diagnosis and treatment for patients with rare diseases and cancer, bringing together genetic data from 16 hospitals across the region in a GENIE system.

### **Birmingham Precision Medicine Centre**

The Centre supports industry's need in translational medicine, from co-designing trials, performing complex 'omics' analysis, and developing companion diagnostic tools. Strong expertise in genetic testing and patient stratification has led to accelerated trials models in blood cancers and the development of advanced therapies in other rare diseases.

### **Birmingham Healthcare Technologies Institute**

The Institute brings new medical technologies to market, focusing on early detection of a range of diseases, repair and tissue regeneration in areas including detection of brain injuries, cancers, scar reduction, and bespoke prosthetic devices.

### **BHP Centre for Regulatory Science and Innovation**

The West Midlands hosts the UK's only NHS academic Centre for Regulatory Science and Innovation, providing expertise to guide regulatory approach.

### **Birmingham Healthcare Innovation Campus**

Locating at the heart of the region's Life Sciences Opportunity Zone, the new Birmingham Healthcare Innovation Campus is currently under development in partnership with Bruntwood SciTech and designed to become a pioneering location that supports rapid translation of scientific and clinical insights into patient benefit and economic growth.

## **Talent**

The West Midlands is thriving with talent, offering access to a deep pool of skilled professionals and up-and-coming industry talent. Eight universities produce over 57,000 graduates, over half of which choose to stay and kickstart their careers in the region. A further 127,000 graduates from 20 universities within a one hours' drive boost the region's pipeline.

The region employs 17,320 people in data-driven healthcare across 600 companies. The scale and quality of the local labour market is supplemented by the region's 11,000 graduates in medical sciences and a further 6,000 graduates in the engineering and computing fields, each year. The region is home to Warwick Medical School and the second largest medical school in the UK at the University of Birmingham.

Contact [InvestWM](#) to speak to our team of sector specialists, who offer a free support service to businesses investing in the West Midlands.