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Foreword

Life sciences has become a multi-billion-dollar, global business. In the Midlands, this sector tackles critical issues which know no borders – health and disease, well-being and the ageing population – by combining leading innovation with expert collaboration.

The Midlands has a stable yet diverse population, which experience the unique challenges of urban, rural and coastal living, as well as significant inequalities. We work closely with our citizens and 11 integrated care boards to improve and extend their lives.

The region leads research and innovation in life sciences. We have the highest number of Medical Technologies companies of any region in the UK (1). We host world-class universities, with seven medical schools, and multi-million-pound research infrastructure such as NIHR Biomedical Research Centres in Birmingham, Nottingham and Leicester, Clinical Trials Units, Clinical Research Facilities and novel NHS embedded commercial research through the Patient Recruitment Centre at Leicester. Together across the Midlands in the last 9 months our extensive clinical trials and experimental research infrastructure have recruited over 120,000 people into health research across 1600 studies (April 2023-January 2024). Our research infrastructure played a critical role in Covid-19 vaccine research, and continue to provide national direction, investigating the impact of Covid-19 on a diverse population.

From Med-Tech to Biosciences, the Midlands offers a strong support network to businesses. We host specialist sector knowledge and cross-agency organisations, such as the Innovation Health Networks, Medilink Midlands, Midlands Innovation Health and Midlands Health Alliance. They provide life sciences and industry expertise, and work collaboratively with specialist organisations such as the Centre for Healthcare Equipment and Technology Adoption at Nottingham University Hospital, the Centre for Ethnic Health Research at the University of Leicester and the West Midlands Health Tech Innovation Accelerator.

With excellent national and international transport connections the Midlands has an economy worth more than £200bn a year. We have strong life science supply chains, including manufacturing companies and contract research organisations resulting in a diverse, responsive and strong offer to investors.

Due to a unique cluster of specialist provision, the Midlands is also the UK's centre for Trauma, Rehabilitation and Defence Medicine. Key infrastructure including the Surgical Reconstruction and Microbiology Research Centre and the Royal Centre for Defence Medicine in Birmingham, the Stanford Hall Rehabilitation Estate and £105m National Rehabilitation Centre in Nottinghamshire.

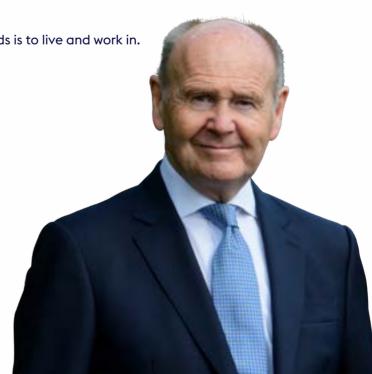
As a Midlander, I know what a great place the Midlands is to live and work in.

As you read on, I hope you will realise this too.

I hope you decide to join us,



Sir John Peace



Medilink Midlands Introduction

The Midlands region possesses significant investment potential and an ambitious growth vision. It is the place to do business, with a world- class research and innovation infrastructure including science and technology parks and business incubation facilities, alongside the delivery of knowledge exchange programmes.

Our area boasts the largest concentration of MedTech firms in the UK, supporting over 33,000 jobs. With seven medical schools educating over a fifth of the UK's medical students, the Midlands remains at the forefront of innovation, driven by its universities, hospitals, businesses, and urban centres. This innovation ensures our region remains at the forefront of promoting better health outcomes and nurturing a thriving life science industry.

The universities across the Midlands, renowned for their cutting-edge facilities and research prowess, play a pivotal role on the global stage in advancing life sciences. Together, they offer distinctive opportunities for international enterprises to invest in research translation, innovation, co-location, and integration within a highly competitive talent pool and extensive regional supply chain across key life science sectors. Moreover, international firms can capitalise on the UK's comprehensive array of incentives and financial support for R&D investors, with the diverse population providing an ideal testbed for innovations.

Companies have access to a variety of research and development facilities, aiding in research translation, product innovation, and co-location opportunities with NHS facilities and a proficient community of life sciences experts. Options for co-location include BioCity in Nottingham, the Charnwood Life Sciences Cluster in Loughborough, or the new Birmingham facility, the Birmingham Health Innovation Campus (BHIC), opening in Summer 2024, where The Precision Health Technologies Accelerator (PHTA) will be based.

In addition to broader support for life sciences investment, businesses can tap into local assistance for research collaboration and grant support from various sources, often through competitive project calls. For over 20 years, Medilink Midlands has provided specialist innovation and business support to enable life sciences and healthcare businesses to access such schemes, creating clusters and ecosystems to help businesses establish, develop, and grow in the Midlands.

Another launch pad available for businesses in selected locations in the Midlands is the Global Growth Programme - a UK market entry support package that makes relocating or starting a company in the UK market easier, whilst reducing risk. Developed by the West Midlands Growth Company (WMGC), the programme addresses the key challenges faced by ambitious companies at every stage of development and accelerates business growth in the UK.

As the voice of the industry, we are delighted to have supported the Department for Business and Trade in presenting this brochure which explores the key life sciences strengths of the Midlands, reasons for locating here, the region's key life sciences assets, clinical trials, testing, and research capabilities, academic, clinical, and industry collaborations, health, care and innovation research, and trauma and defence medicine.

Throughout this brochure, you will discover the compelling reasons why life sciences businesses are actively choosing to set up, develop, and grow in the Midlands, presenting a range of enticing investment prospects in this dynamic and vibrant region.



Midlands Life Sciences Industry Overview

Welcome to the Midlands

The Midlands is home to one of the greatest health and life sciences clusters and the largest number of medical technology companies in the UK (1), boasting a wide network of science parks, research, innovation, incubation, and development facilities.

The Midlands region offers an unparalleled blend of private sector businesses, universities, and research translation centres, coupled with strong collaboration, research and clustering activities which combine to make an established and well-connected eco-system.

The Midlands at a glance

Economic contribution

- The Midlands has over 1,200 life sciences businesses supporting over 33,000 high skilled jobs (2)
- The Midlands economy is worth more than £200bn a year. (3)
- There were 265 foreign direct investment (FDI) projects into the Midlands area in 2022-23, representing 16% of total FDI projects. (4)
- 11,091 new jobs were created in the Midlands, as a result of FDI projects in 2022-23. (4)

Clinical

- The Midlands is home to the second largest clinical trials cluster in Europe and has the largest cluster of clinical trial facilities than any other English region. (7)
- It has a stable, ethnically diverse population of over 10.7 million, providing a perfect platform for medical research and clinical trials
- It houses 42 Clinical Commissioning Groups (CCGs), 131 NHS Hospitals and 41 NHS Trusts, with several specialist trusts including the Birmingham Women's Hospital, Bridge Clinic, and the European Sperm Bank UK

Affordability

- Average house price in the Midlands: £275,000 (Rightmove, January 2024)
- The price of an average home in the West Midlands is 60% cheaper than in London (8)





Key Life Sciences Strengths of the Region

Strengths of the Midlands

Our strong life sciences pedigree stretches from Nottingham, with BioCity (Pioneer Group) and the Medical Technologies Innovation Facility (MTIF), to Birmingham and the world-leading Birmingham Health Innovation Campus, due to open in the Summer 2024.

Growing businesses

The Midlands is home to notable high growth companies indigenous to the region, including Thermo Fisher, Salts Healthcare, Quotient Sciences, Sygnature Discovery, Charnwood Discovery, Kimal Plc, Pennine Healthcare, Alliance Medical, Biocomposites, and Thea Pharmaceuticals.

Building on the strength of local companies, there are established multinationals including Parexel, Clinigen Group, Worldwide Clinical Trials, 3M, Fresenius Medical Care, Catalent Pharma Solutions, and Walgreens Boots Alliance. The Midlands has been strengthened by Almac's move from Northern Ireland to Charnwood Campus in Leicestershire, as well as Abbott Healthcare's move from Stratford to Solihull.

To solidify its position within the specialty diagnostics arena, particularly for multiple myeloma, Thermo Fisher finalised the acquisition of West-Midlands based business, The Binding Site Group on 31 January 2023 for \$2.8 billion.

Universities supporting innovation

Midlands universities have been supporting the innovation eco-system for decades. If a business is seeking responsive, innovation support chains, then dedicated support programmes, funding, and networks can help them to do this, for example, through co-funded government schemes such as Knowledge Transfer Partnerships (KTPs), which are some of the most successful, long-running innovation schemes anywhere in the world.

Supply chain strength

Through the diversity of life sciences businesses, from medtech and diagnostics, biotech to pharmaceutical, an equally diverse and adaptable supply chain has been developed. This is further enhanced by the academic research bases not only within the life sciences sector, but also the engineering, sciences, computing, and business schools.

Clinical trials strength and opportunities

The region's unique infrastructure offers an integrated research and innovation platform that spans discovery, development, validation, clinical implementation and ultimately evaluation, making the Midlands the go-to location for accelerated execution and adoption of clinical trials. The Midlands' large stable population (multiple generations of key ethnic groups) provides an ideal 'living laboratory' for supporting translational medicine and, more widely, the balance of market push and pull that keeps life sciences innovation relevant. In the Midlands, innovative businesses needing to run clinical trials can access clinical trial populations that accurately represent the patient demographic.

Why Locate in the Midlands?

The Midlands is located at the heart of a well-connected transport network, with proximity and access to 90% of the UK within four hours. At the heart of road and rail infrastructure, the Midlands' strategic road and rail networks such as the M6, the M1, the West Coast Mainline, the East Coast Mainline, and the Midlands Mainline are all of national importance.

The region has started on HS2 of which Birmingham will be the hub of the country's new high-speed rail network, expanding capacity and connecting to London in less than 50 minutes. The region is home to two international airports – Birmingham and East Midlands – with direct flights to most major European cities as well as Asia and USA.

The East Midlands Freeport is the only inland UK Freeport connected to an airport rather than a seaport and is a unique opportunity to make the region the destination for UK and international investment.

Manufacturers and exporters within the Freeport's 45km customs zone can register as Customs Site Operators and qualify for special incentives. Registered businesses benefit from duty flexibility, suspension or exemption on imports and exports, can move goods to other Freeports, as well as simplified paperwork. This gives a competitive advantage to our East Midlands businesses in the global market.

Over 45% of British rail freight and 33% of heavy road freight goes to, from or through the Midlands. The Port of Immingham off the coast of Lincolnshire is the UK's largest port by tonnage.

Logistics and shipping into and across the UK are being super enhanced. East Midlands Gateway provides a Strategic Rail Freight Interchange which accommodates up to six million sq. ft of distribution and storage buildings. It is built next to the UK's only 24-hour air freight terminal airport with links to the motorway network and can ship goods anywhere in the UK.

The Midlands is also a leading location for UK advanced manufacturing, with 25,000 businesses and 513,005 existing jobs in the sector, – 6.5% of the region's total businesses and 11.4% of all employment, a much higher percentage than the national average. The region is home to over 25% of England's manufacturing workforce and manufacturing also makes up a higher proportion of the overall economy in the Midlands than the UK average.

The Midlands is home to several of the UK Catapult Centres, Energy Systems (Birmingham and Derby), Satellite Applications (Leicester), and two focused on high-value manufacturing: the Manufacturing Technology Centre (MTC) near Coventry, and WMG at the University of Warwick.

The High Value Manufacturing Catapult (HVMC) helps grow the UK's advanced manufacturing value add by helping industry to develop new manufacturing technology. They create the conditions for economic growth by enabling UK manufacturers to achieve significant improvements in their performance and productivity. The HVMC helps to bridge the gap between research and industry.



Midlands Life Sciences Opportunities

Investment zones are geographically defined areas containing designated tax sites, targeted at high potential areas with the aim of boosting economic growth.

East Midlands Investment Zone (EMIZ)



With a budget of £383 million and a focus on advanced manufacturing and green industries, it promises to supercharge the region's economic resurgence over the coming years. It will also offer tax incentives for businesses that locate or expand in the zone, such as enhanced capital allowances, business rates relief, and research and development tax credits. Rolls-Royce and Laing O'Rourke have pledged to provide anchor investment into the East Midlands Investment Zone, worth £9.3m. It is expected that EMIZ will help to create more than 4,200 jobs across the local economy over a ten-year period.

West Midlands Investment Zone (WMIZ)



Focusing on advanced manufacturing, local partners expect it to help to leverage £2bn in private investment and help to create 30,000 jobs in the region over the next ten years. The Zone will be focused across Birmingham, Wolverhampton and Coventry, with anchor investment from Bruntwood SciTech and Woodbourne Group worth £70m in total and backed by more than £5m of investment into enabling digital platforms to support advanced manufacturing growth.

LIFE SCIENCES ASSETS





Birmingham Health Innovation Campus

Set to be a world-leading life sciences campus when the first phase opens in Summer 2024. By 2031, the campus will total 657,000 sqft of lab and office space. Delivered by the University of Birmingham and Bruntwood SciTech, cutting-edge innovation facilities will build on the region's nationally recognised strengths in healthcare data, genomics medicine and diagnostics, medical technologies, and clinical trials.

<u>bruntwood.co.uk/our-locations/birmingham/birmingham-health-innovation-campus</u>



Innovation Birmingham Campus

The leading location for Birmingham's digital and tech community; providing a lively community alongside office and coworking opportunities for innovators, entrepreneurs and investors looking to develop or fund innovative digital start-ups with high growth potential.

bruntwood.co.uk/our-locations/birmingham/innovationbirmingham



BioCity Nottingham (Pioneer Group)

The CRO & CDMO collective. A centre of excellence for pharmaceutical and biotech CROs, established over 20 years. Floors of flexible lab space and offices across four unique buildings in Nottingham city centre. Pioneer Group provide an ecosystem of space, investment, accelerator programmes, scale-up training, and industry connections.

thepioneergroup.com/locations/biocity-nottingham



Nottingham Science Park

A long-established business location on a site of around 28 acres specialising in research and development, encouraging innovation and collaboration between occupiers. It provides a diverse range of office and workspace accommodation including award winning Grade A offices set within a landscaped campus style environment.

nottinghampropertyplus.co.uk



Malvern Hills Science Park

A community of some 400 people exploiting science and technology so their businesses will grow and prosper. The Science Park occupies a 10-acre site, situated in the heart of Cyber Valley, which is home to a number of growing companies working to strengthen the UK response to cyber-attacks, including The National Cyber Skills Centre.

mhsp.co.uk



Lincoln Science & Innovation Park

Bringing together a community of knowledge-intensive businesses co-located with the University of Lincoln's life science laboratories. Premium office and bespoke laboratories are available with grow-on possibilities as your business grows. lincolnsciencepark.co.uk



Keele University Science & Innovation Park

A unique and picturesque 70-acre site, offering an exceptional choice of office, workshop and laboratory space. Near to Keele University's world-leading research knowledge and academic expertise, it is the ideal place to enable your knowledge-intensive business to grow quickly, strategically, and effectively. kusip.co.uk



Oswestry Innovation Park

The Oswestry Greenfield site opportunity has huge potential as a major new landscaped business park (up to 9.7ha) for offices, laboratories or light industry, and its proximity to the Robert Jones & Agnes Hospital, a major Orthopaedic and regenerative Medicine Centre. (Image by kind permission of TACP Architects Ltd)

invest@shropshire.gov.uk



Birmingham Research Park: BioHub Birmingham®

A fully serviced biomedical incubator and accelerator designed to house life science companies from proof of concept through to expansion. The BioHub provides both shared laboratory and single-occupancy mixed office / laboratory suites. Unit 9 provides short term incubation for MedTech companies that need appropriate space, equipment and facilities but do not have the funding for initial capital equipment or required space.

birminghamresearchpark.co.uk



University of Wolverhampton Science Park

The award-winning Science Centre at the University of Wolverhampton Science Park provides 4,000 square metres of space with Category 1 & 2 laboratories, workshop space, and configurable offices. These facilities are ideal for life science businesses to enhance their R&D activities. wolverhamptonsp.co.uk



Ansty Park

Coventry is the new home for technology and innovation in the heart of the UK's key transport hub. With 1.5 million sq. ft of space set in 100 acres of beautiful, landscaped parkland, it has been designed to ensure that the creation and sharing of knowledge is at the heart of the park's future development. anstypark.co.uk



Edgbaston Medical Quarter - EMQ

At the hub of the healthcare and life sciences revolution taking place in Birmingham near the Queen Elizabeth Hospital. It is home to an established and growing healthcare and life sciences community, supported by internationally renowned research, training and educational facilities, eminent consultants, and leading healthcare providers. Major occupiers include two Circle Health hospitals, the Binding Site, The Westbourne Centre, University of Birmingham and Birmingham City University's healthcare-focused campus.

calthorpe.co.uk/sectors/medical



Hagley Road, Edgbaston

Offering a range of landmark medical and life science space options and includes a major 11-acre mixed-use development named New Garden Square, where Phase I will be open in June 2024 comprising 392 apartments. Connectivity of this gateway location had been enhanced with the arrival of the Midlands Metro 'Edgbaston Village' terminus.

calthorpe.co.uk



Pebble Mill

This a world-class medical and healthcare location within EMQ, home to the Dental Hospital & School of Dentistry, Circle Health private hospital and Bupa care home, with an amenity offer provided by Costa Coffee and Asda Express. Development opportunities remain for further occupiers. pebblemillbirmingham.co.uk



The University of Warwick Science Park

Offering a unique package of property and business services to provide an environment in which innovative and knowledge-based companies can grow. It is 15 minutes from Birmingham International Airport and less than an hour from the centre of London by train.

warwicksciencepark.co.uk

This is not intended as either an exhaustive or a ranked list of science park and innovation facilities within our region.

Midlands Enterprise Zones

Enterprise Zones are designated areas across England that provide tax breaks and government support. They are great places to do business, especially for new and expanding businesses.



Loughborough & Leicester

Manufacturing and office spaces available immediately, offering a wide range of business support programmes aimed at developing life sciences cluster in the region. Exhibitions and networking events complement its varied range of amenities, technical and clinical resources. Endorsed by the government as an Enterprise Zone and Life Sciences Opportunity Zone, Charnwood Campus drives the life sciences agenda in the East Midlands region.



Loughborough Univesty Science & Enterprise Park (LUSEP)

Home to over 90 organisations and a workforce over 2,500 people, LUSEP offers start-ups to global organisations an unrivalled opportunity to join a dynamic innovation community with a world-class research base and graduate supply. lusep.co.uk



Leicester Waterside

Split across two sites, with Pioneer Park a key development opportunity for science, technology and innovative businesses in a prime location adjacent to the University of Leicester Space Park development and the National Space Centre.

llep.org.uk/investments



Nottingham & Derby



MediCity Nottingham - Pioneer Group

The home of medtech. A beautiful Art Deco Grade 1 listed building, located at Boots headquarters. Tenants of MediCity benefit from Enterprise Zone status, enjoying (in most instances) full exemption on business rates, making it the ideal incubator to start and grow your business. MediCity is part of Europe's largest collective of scientists, technologists, and entrepreneurs.

thepioneergroup.com/locations/medicity-nottingham



Infinity Park Derby

At Infinity Park Derby, the world's foremost research, manufacturing and logistics companies come together to forge stronger links across the UK supply chain. The spark of inspiration does not travel far. Co-location at Infinity Park Derby offers the opportunity to create synergies between occupiers, driving innovation across disciplines and industries.

infinityparkderby.co.uk

Clinical Trials, Testing, and Research

The region has significant strength in clinical trials in terms of both infrastructure and expertise – the Institute of Translational Medicine (ITM) and the Birmingham Centre for Clinical Trials, with specific expertise in the design and running of medical device trials (D3B team) and high accrual rates. One of Europe's largest academic trials infrastructures, together with the Leicester, Nottingham, Warwick, and Derby Clinical Trials Units, amounts to a significant proportion of the UK's clinical trials capability. This robust infrastructure can help to accelerate the transfer of ideas from discovery research into new patient treatment options and improve overall return on investment.

Midlands NHS Trusts conduct a wide range of research work on behalf of, and in association with, industry, including more than 40 blue chip multi-national companies such as AstraZeneca UK, GSK, Pfizer, and Roche Products. Last year, regional health organisations conducted almost 5000 portfolio studies with over 220,000 patients excluding any direct commercial work.

Research undertaken for industry takes various forms related to patient care, outcomes, and service delivery. These studies and trials range from clinical, sampling, through to questionnaires and data research. Whilst many of the trials conducted within Midlands Trusts are for pharmaceutical studies, there is growing activity in clinical evaluation and human factors work for medical devices, technology, and systems ,which represent an attractive proposition for investors looking to back businesses in this growing sector. The region also plays host to four Tissue Bank centres each with their own specialities.

The Midlands boasts more than 80 NHS centres providing commercial research services and has a plethora of facilities in which to support and facilitate investigations and trials, from imaging to data analysis and health economics. There are also 42 regional CCG (Clinical Commissioning Groups) that are conducting community and delivery-based studies.

CROs & product testing facilities

There is a significant array of Clinical Research Organisations (CROs), product testing facilities and regulatory affairs organisations located in the Midlands to meet any life sciences organisations' manufacturing or regulatory requirements; from materials and product testing to drug discovery and testing; and from laboratory to first in man clinical trials, to the provision of completed regulatory certification.

Many Midlands companies support, facilitate and service the life sciences sector with testing and clinical trials for validation and certification. These services can work with local regulatory experts and notifiable bodies to provide the legal requirements to market products within the UK, Europe, USA and elsewhere within the world. These complement the equally large number of university, NHS and hospital-based trials and testing facilities, with additional healthcare and clinical industry related services.

See the appendix for a list of just some of the many Midlands-based CROs.





Academia, Clinical, and Industry Collaborations

The Midlands offers a gateway to connecting with the academic, business, and clinical communities, providing access to essential knowledge, helping to form collaborative partnerships and navigate the ever-evolving health innovation landscape.

Midlands Innovation

A strategic research partnership of seven Midlands-based universities: Aston University, University of Birmingham, Keele University, University of Leicester, Loughborough University, University of Nottingham, and University of Warwick. Combine their collective excellence to unite the power of university research with the unique strengths of Midlands industry to drive cutting-edge research, innovation, and skills development.

midlandsinnovation.org.uk

Midlands Innovation Health (MI Health) is the medicine, health, and life science arm of Midlands Innovation – it coordinates and combines the education, research, and innovation strengths of Midlands Innovation universities to deliver improved health and regional growth. Driving disruptive translational interventions and influencing nationally, MI Health draws together a critical mass of innovative regional stakeholders to impact national and global health challenges using local training strengths, expertise, networks, best practice, and facilities. A key area of the partnership's activity supports investment within and into the Midlands region. mihealth.org.uk



Midlands Innovation Universities

- 3 Midlands Innovation universities are in the Top 100 QS World University rankings
- 3 noted in the top 30 of the Complete University Guide 2024 league table

Midlands Enterprise Universities

A partnership of eight entrepreneurial Universities (Birmingham City, Coventry, Nottingham Trent, Derby, Lincoln, Wolverhampton, De Montfort, and Staffordshire) working together to drive productivity and economic growth across the Midlands through skills, innovation and enterprise have come together to:

- Enable innovation and to stimulate an innovation ecosystem
- Deliver focused support to Midlands SMEs
- Provide multi-billion-pound investment into new facilities for students and businesses

midlandsenterpriseuniversities.co.uk





Birmingham City University

One of the largest healthcare training providers in the UK, with more than 7,000 students, and has established strong working relationships with several local NHS Trusts. The university is investing heavily in its healthcare facilities. It has recently invested £4lm in new lab space facilities for courses including Telemedicine, Pathology, Diagnostics, Biomedical Science & Engineering, Midwifery and Nursing. The university is also home to an award-winning £70m innovation centre, which houses expertise in Al, Data, 5G and Cyber Security Plus. The innovation centre promotes student-business engagement through mentoring, inter-disciplinary projects and internships.



The Open University's School of Life, Health and Chemical Sciences

Brings together world-class researchers with expertise in neurobiology, psychology, immunology, genetics, and cellular and molecular biology, as well as organic, medicinal, inorganic and materials chemistry. Our research benefits from modern laboratories based at our central Milton Keynes campus. Our facilities include core qPCR, gel docs, FACS, time-lapse imaging and microinjection equipment. The School houses a fully equipped histology suite, centrally managed analytical facilities and cell and tissue culture laboratories up to containment level 2, as well as a renowned electron microscopy facility available to researchers and external organisations.

Health Innovation Networks (HINs)

The region's two Health Innovation Networks (HINs) play a unique role in supporting innovators and healthcare organisations to develop and adopt new, better, and safer ways of delivering services for patients. Health Innovation East Midlands and Health Innovation West Midlands are two of the 15 local health innovation networks across England (formerly known as AHSNs) and they operate as the innovation arms of the NHS in the Midlands.

They collaborate across every sector involved in healthcare transformation – including the NHS and care organisations, research and academic partners, healthcare companies, the third sector and patient groups – to support the rapid uptake of technologies, systems, devices, and medicines that respond to the Midlands' key health challenge areas.

The HINs also play a central role in creating a link between research and implementation; taking the most promising research outputs to create a 'bench to bedside' pipeline of innovation.

In collaboration with the other local HINs across England, this has developed into a national innovation pipeline comprising 1,500+ proven solutions that can be quickly imported to address the priorities of the Integrated Care Systems across the Midlands.

The work of the HINs not only benefits patients and healthcare organisations; by supporting health companies and innovators to scale their great ideas it is contributing millions of pounds of growth to the Midlands economy – during 2022 to 2023 the two HINs attracted more than £39M of inward investment and created 47 jobs.

healthinnovation-em.org.uk / healthinnovationwestmidlands.org

Health Care & Innovation Research

Data-driven healthcare

A critical emerging sector for the Midlands region is data-driven healthcare and digital healthcare, with the region hosting a rapidly growing cluster of digital health companies and more digital startups than any UK area outside of London. The Midlands is a health data and Al powerhouse, as recognised by the UK Sector Deal. Within this area, there are two concentrations of activity:

Accelerating disease-focused industrial research:

Utilising close relationships between academic/clinical excellence and ethnically diverse population, and world-leading data science expertise, the Midlands can help to reduce development time and costs of clinical trials to enable businesses to innovate faster.

This is demonstrated through our regional infrastructure including: the UK's only Centre for Patient Reported Outcomes, the Midlands HDRUK Substantive Site, the Centre for BME Health, the Midlands-Wales Advanced Therapy Treatment Centre, two UK Digital Innovation Hubs (participating in a third), a fully integrated NIHR infrastructure coordinated by the three Midlands Biomedical Research Centres, and some of the UK's foremost diagnostic and experimental medicine capabilities (e.g. the UK's largest NHS genetics service, Genomic Medicine Centre and NIHR award for the joint adult-paediatric facilities).

All working collaboratively with companies to develop technologies that support prevention, early diagnosis, and treatment of chronic diseases.

Delivering unrivalled digital infrastructure:

The Midlands offers an unrivalled ability to link and analyse patient data, leverage our translational research infrastructure to trial and validate new health interventions, and bring those impacts back to the patient (as well as our industry collaborators) at sufficient scale and pace to meet the Grand Challenges set by the UK Industrial Strategy.

To support collaboration, mobilise NHS data and give patients across the UK faster access to pioneering new treatments, the region has developed a locally developed and internationally leading digital health infrastructure.

The Midlands is home to two Alan Turing Institute sites, four NHS England Global Digital Exemplars, the High-Performance Computing Midlands Plus centre, one of the world's largest Arm-based supercomputer deployments, and the UK's largest IBM Power9 Al cluster.



Research assets, services, and communities available to Midlands businesses:

- Centre for Health Data Science, University of Birmingham
- Centre for Human Brain Health, University of Birmingham
- Centre for Patient Reported Outcome Research, University of Birmingham
- Pathology Image Data Lake for Analytics, Knowledge, and Education (PathLAKE), University of Warwick
- Centre for Ethnic Health Research, Leicester General Hospital
- Leicester Real World Evidence Unit, University of Leicester NHS Trust
- West Midlands Secure Data Environment, University of Birmingham
- Sir Peter Mansfield Imaging Centre, University Park Campus Nottingham
- Centre for Health Data Science, Aston University
- Health Data Research UK Midlands
- PIONEER (HDRUK)

The West Midlands Secure Data
Environment (SDE) is part of a national
SDE programme that supports the
creation of platforms that give
authorised, trained researchers the
ability to analyse health and social care
data. The aim is to collate and
harmonise large-scale multi-modal
healthcare data to derive executable
knowledge which enables discovery
and catalyses innovation.



Innovation & Research Network

The Midlands skills base makes it the go to location for organisations who want to develop diverse and dynamic partnerships between businesses, academia, suppliers, and customers.

The Midlands has several well-established life sciences locations. These clusters offer instant networks, access to professional services, academia, industry support and funding.

By collaborating with the Midlands innovation and research network, organisations can gain access to specialist trial management teams, with the ability to run efficient, adaptive trials. Through this collaborative approach, investors can benefit from accelerated innovation and results, such as regulatory approval of a device or contributing to the licensing of a drug.

This region offers, specialist services, tailored to industry partner needs, to support and house life sciences companies from proof of concept through to expansion. Examples such as, compliance and regulatory pathway and routes to NHS market access – all without unnecessary challenges and barriers many face without the right partnerships in place.





Highlighted below are a few of the non-commercial facilities, with more listed in the appendix:

Centre for Healthcare Equipment & Technology Adoption (CHEATA)



Hosted by Clinical Engineering at Nottingham University Hospitals NHS Trust. CHEATA is a unique service offering within the NHS and supports medical device manufacturers (industrial, academic, or clinical), to progress their technology and gather the evidence needed for NHS adoption including device value propositions, health economics, literature searches and device evaluation.

Cheata.co.uk/

Medical Technologies and Innovation Facility (MTIF)



A cutting-edge hub based in Nottingham which provides a bridge between academia and industry, enabling breakthroughs in life sciences. Our state-of-the-art facility provides a collaborative ecosystem for researchers, entrepreneurs, and industry experts to accelerate medical innovations. MTIF leverages advanced technologies and interdisciplinary expertise to streamline the translation of research discoveries into tangible healthcare solutions. MTIF catalyses the development of novel diagnostics, therapeutics, and medical technologies. MTIF is a Medilink patron, backed by Universities for Nottingham, and has strong partnerships with NHS and commercial industry. Learn more and book a visit by contacting: mtif.co.uk

The Healthcare Technologies



Bringing together leading experts from a variety of disciplines across the University of Birmingham, including chemical engineering, biomedical science, computer science, applied mathematics, chemistry, and physics. Researchers across campus are working collaboratively to speed up the translation of new discoveries into health applications. Our research supports the development of existing markets and stimulate new ones for small and medium sized Life Sciences businesses, enabling them to bring products to market quickly, at less cost with reduced risk.

hti@contacts.bham.ac.uk.

Institute of Translational Medicine Birmingham



Aiming to promote specific interactions across disciplines and with industry to accelerate development of innovations into concepts and assets that directly benefit healthcare. It brings together people with relevant skills from different disciplines, such as cancer, inflammation, rare diseases, and bioengineering, and provides infrastructure, such as informatics, biorepositories, and a stratified medicine laboratory, to speed up the translation of new discoveries into health applications. $\underline{1}$

tmbirmingham.co.uk

Highlighted below are a few of the non-commercial facilities, with more listed in the appendix:

East Midlands and West Midlands Health Innovation Networks



A lead and catalyse collaboration between academia, industry, health and care providers, commissioners, and citizens to support continuous improvement of our region's health and economic growth. As part of the national Health Innovation Network, we seek out, test, and accelerate the adoption and spread of innovative ideas and technologies with the potential to transform health and social care in the Midlands and beyond.

healthinnovation-em.org.uk / healthinnovationwestmidlands.org

East & West Midlands Clinical Research Networks (CRNs)



The Midlands region is covered by the Clinical Research Network (CRN) West Midlands and CRN East Midlands. They are two of 15 regional Networks in England and are part of the National Institute for Health and Care Research (NIHR). The CRNs are funded by the Department of Health and Social Care. As part of the wider NIHR, the Networks coordinate and support the delivery of research in the NHS and across the wider health and social care environment, offering people the opportunity to contribute to the development of new and better treatments. In 2024, the CRNs will transition to a new Research Delivery Network which will support the country's world-class research system to deliver high quality research that enables the best care for our population.

local.nihr.ac.uk/lcrn

Birmingham Health Partners (BHP)



A cluster of contrasting, yet complementary organisations, sharing the common goal of achieving health and economic impact through the purposeful use of knowledge and expertise. It is a strategic alliance between seven clinical and academic organisations who collaborate to bring healthcare innovations through to clinical application: University of Birmingham, Aston University, Birmingham Women's and Children's Hospitals NHS Foundation Trust, The Royal Orthopaedic Hospital NHS Foundation Trust, Sandwell and West Birmingham Hospitals NHS Trust, University Hospitals Birmingham NHS Foundation Trust, Health Innovation West Midlands. Its unique ecosystem enables the full spectrum of translational medicine: encompassing health data; an established local health system; academic excellence; and an extensive clinical trials capability.

birminghamhealthpartners.co.uk/

Medical Devices Testing and Evaluation Centre



(MD-TEC, situated in the heart of the University Hospitals Birmingham NHS Foundation Trust, provides support for the accelerated development of medical technologies. MD-TEC is a state-of-the-art testing and usability lab that mirrors the clinical environment, where device and technology prototypes can be tested and evaluated at every stage of development to ensure they are fit for purpose, improve patient care, and will ultimately add value to the clinical portfolio. Our usability testing involves the latest 3G technology patient simulators, minimising study requirements and allowing companies the ability to test product/service iterations whilst avoiding costly design mistakes and condensing the design time frame. Known as the designated testing facility for the UK Government's Ventilator Challenge, MD-TEC's 4k streaming capability enables business engagement and interactivity globally. md-tec.com/

Innovation & Growth Accelerators



The Precision Health Technologies Accelerator

The Precision Health Technologies Accelerator is the University of Birmingham's signature life sciences research facility, providing ~70,000 sq. ft of state-of-the-art laboratory, incubation, and collaboration space. PHTA will soon occupy the top three floors of No.1 Birmingham Health Innovation Campus – being delivered in partnership between the University and developer Bruntwood SciTech. Working alongside Birmingham Health Partners, PHTA offers access to a wide range of expertise in clinical research, trials, and health data, as well as opportunities to collaborate with clinical-academic opinion leaders. Its facilities will include wet and dry lab space, prototyping and small-batch manufacturing, and business incubation

space. phta.co.uk



West Midlands Health Tech Innovation Accelerator – WMHTIA

The West Midlands Health Tech Innovation Accelerator is focused on helping companies drive their innovations towards market success. Uniting 18 partners across academia, business, and NHS under one cohesive programme – the WMHTIA provides access to essential services and expertise pivotal to developing technologies. The accelerator's scale and support model – which tailors a bespoke development path for every engaged innovator – streamlines the process of transforming technologies from concept to real-world implementation. Through the diversity of our 18 partners, the WMHTIA can also help businesses looking to export to international markets and encourage businesses from overseas to land in our region. The WMHTIA is funded by the Department for Science, Innovation and Technology, in partnership with Innovate UK and the West Midlands Combined Authority.

wmhtia.com



SPARK UK Programme

As part of the West Midlands Health Tech Innovation Accelerator, Aston University has decided to open the initial branch of SPARK UK within the remit of the West Midlands Combined Authority. SPARK is a preclinical accelerator first started in Stanford University, USA. Now available in over 60 locations globally, SPARK aims to provide the education and mentorship necessary to advance research discoveries, proposing solutions to current unmet clinical needs, from the bench to the bedside. SPARK provides access to specialised knowledge and technical expertise regarding diagnostic, therapeutic and medical device development, and sources of funding to support translational efforts.



Global Growth Programme

The Global Growth Programme is a UK market entry support package that makes relocating or starting a company in the UK market easier, whilst reducing risk. Developed by the West Midlands Growth Company (WMGC), the region's official investment promotion agency, the Global Growth Programme addresses the key challenges faced by ambitious, innovative companies at every stage of development – from scale-ups to large corporates – and accelerates business growth in the UK through its unique, nine-month package of free market entry support. With only 40 places available, applications are now open. Businesses can find out whether they are eligible & register their interest: investwestmidlands.com/alobal-growth

Trauma and Defence Medicine

The Midlands is the UK's centre for Trauma & Defence Medicine with unparalleled expertise. The region offers the ideal environment, infrastructure and expertise for the development and production of defence- and rehabilitation-focused innovations.

Major Trauma – Civilian

East Midlands Major Trauma Centre

Nottingham University Hospitals NHS Trust The East Midlands MTC offers advanced skills and intervention and is the busiest centre in the UK. It has the strongest clinical outcomes nationally and, since opening in April 2012, has saved 645 lives.

University Hospitals Coventry & Warwickshire

MTC UHCW has been re-certified as a 'Centre of Excellence (CoE)' for Gastro-entero-pancreatic (GEP) Neuroendocrine Services by the European Neuroendocrine Tumour Society (ENETS) and certified as a CoE for Lung Neuroendocrine Tumours.

University Hospitals of North Midlands

MTC UHNM's Major Trauma Centre was created in 2012 and is one of the best in the country, serving a population of nearly three million people and stretching from Anglesey to the Peak District. The service opened a bespoke Acute Rehabilitation & Trauma Unit t at Royal Stoke in 2016 and works within the Northwest Midlands and North Wales Trauma Network, supporting five trauma units and three local emergency hospitals.

Birmingham Children's Hospital

Paediatric MTC Birmingham Children's Hospital is the UK's leading specialist paediatric centre, caring for sick children and young people up to the age of 16. Rated as 'Outstanding' by the CQC in February 2017, it is a world leader in some of the most advanced treatments, complex surgical procedures, and cutting-edge R&D.

University Hospitals Birmingham (UHB)

Major Trauma & Critical Care. The Queen Elizabeth Hospital Birmingham (QEHB) has the largest single critical care unit in Europe and provides 24/7 treatment to adults in a separate, self-contained area of the hospital.

The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust (RJAH)

Leading orthopaedic Centre of Excellence and a founder member of the Specialist Orthopaedic Alliance (SOA).

The Royal Orthopaedic Hospital NHS Foundation Trust

based in Birmingham and is one of the largest orthopaedic centres in Europe. The Trust offers planned specialist care for all orthopaedic subspecialties.





The Home of Military Medicine

The Midlands has established itself as an international centre of excellence for Defence Medicine. The Defence Medical Services (DMS) comprises of personnel from the Royal Navy, Army, Royal Air Force, and civilian personel, who are located across the UK and overseas.

The Medical Directorate is located within the University of Birmingham Research Park and is the home for military medicine academic departments and clinical expertise for UK Defence. Its mission is to improve patient care within defence through innovation, research, development, and healthcare engagement, regionally, nationally, and internationally. The Directorate has built a world-renowned reputation for trauma innovation following campaigns in Afghanistan and Iraq.

Royal Centre for Defence Medicine (RCDM) provides medical support to military operational deployments and specialist care for member of the armed forces. It is a dedicated training centre for defence personnel with a focus on medical research. Based at the Queen Elizabeth Hospital Birmingham (QEHB), the Trust also holds the contract for providing medical services to military personnel evacuated from overseas via the AeroMed Service.

The Defence College of Healthcare Education and Training (DCHET), based at the Defence Medical Services (DMS) Whittington near Lichfield. It delivers individual medical training and education to agreed standards and in accordance with current Defence (including Reserves & Civil Service Clinical staff) policies, on behalf of the Royal Navy, Army, and Royal Air Force. Delivers 127 courses to 8,600 students each year.

Rehab HealthTech Research Centre (RehabHRC) People with potentially life-changing injury, trauma and illness deserve the best rehabilitation. New technology is key to advancing this. The RehabHRC will focus on developing and applying new technologies to transform patients' lives. Supported by £3m NIHR grant and centred on the £105 million investment at the National Rehabilitation Centre, the RehabHRC will enable patients to experience new technologies in a purpose-built centre of excellence.

The National Rehabilitation Centre (NRC) is a 70-bed rehabilitation facility under construction at the Stanford Hall Rehabilitation Estate, close to the Defence Medical Rehabilitation Centre. Hosted by Nottingham University Hospitals NHS Trust, the NRC brings research and innovation, education, and training alongside clinical practice to drive excellence in rehabilitation and is uniquely placed to pioneer international research into clinical rehabilitation, rehabilitation products and technologies. The NRC will open for patients in 2025.

Nottingham Clinical Research Facility is located in Nottingham University Hospitals NHS Trust and delivers world-leading experimental medicine research. With more than 3000m2 of purpose- built adult and paediatric inpatient research space, co-located with clinical specialties in one of the biggest hospitals in the UK. The new mobile Research Unit takes research to local communities with clinic space and a fully equipped lab, adaptable for specific studies, spanning a catchment area of 4 million+ people.

Biomedical Research Centres (BRC) The NIHR awarded nearly £800 million to 20 Biomedical Research Centres across England. BRCs are collaborations between world-leading universities and NHS organisations that bring together academics and clinicians to translate lab-based scientific breakthroughs into potential new treatments, diagnostics, and medical technologies.

HealthTech Research Centres (HRCs) The NIHR awarded almost £42 million to establish 14 new centres across England that will drive life-changing research into health technologies. Three of the 14 UK HRCs are housed within the Midlands. Working to support the development of innovations in digital and robotics, mental health and rehabilitation, the HRCs will keep the region and the UK as a whole at the forefront of research and the place companies want to come to in order to invest in the development of health technologies.

NIHR HRC in Mental Health (MindTech) The new MindTech HRC will be led by Nottinghamshire Healthcare NHS Foundation Trust, in partnership with the University of Nottingham. Its aim is to use technology to transform mental healthcare delivery and improve the lives of people with mental health problems.

Appendix

Midlands Enterprise Zones - p13

Birmingham - With 39 sites, 113 hectares of new and existing development space and up to £2 billion of potential investment available, the Enterprise Zone is an engine for growth across the city and wider area.

businessgrowthwestmidlands.org.uk

Black Country comprises a portfolio of sites in Wolverhampton, Dudley and Walsall. A wide range of sectors are encouraged to the site, including advanced manufacturing.

Hereford - Skylon Park is the 100-acre site of the Hereford Enterprise Zone. Plots are made development ready so owner occupiers can buy and build their new workspace straight away. Businesses are welcomed to join local sector strengths including advanced manufacturing, engineering and technologies, sustainable technologies and it is the only Enterprise Zone with a defence and security focus.

skylonpark.co.uk

MIRA Technology Park (MTP) is Europe's leading mobility R&D location for developing the latest automotive technologies. miratechnologypark.com

Northampton - Northampton Waterside Enterprise Zone is an ideal location for businesses to grow and succeed. The Zone is a vibrant commercial district, including growing small businesses as well as major alobal brands.

Clinical trials, testing, and research - p14

Just some of the region's successful transplant projects:

Regulated by the Department of Health's Human Tissue Authority, the Leicester Bone Bank is the largest NHS bone and tissue storage and supply facility in the UK. They collect bones from hospitals across the country and supply bones and tissues to transplant surgeons, as well as for research.

Midlands Trusts have embraced the 100K Genome Project which has successfully sequenced 100,000 genomes from around 70,000 people. To date, actionable findings have been found for 1 in 4 or 5 rare disease patients, and around 50% of cancer cases contain the potential for a therapy or a clinical trial.

The region boasts five specialist Transplant Units all engaged in various aspects of research in relation to the safe removal (harvesting), transportation and transplantation of organs and tissue.

The Anthony Nolan Cell Therapy Centre, Nottingham Trent University processes and stores cord blood for national and international clinical transplantation centres. The centre also carries out world-class research using blood of non-clinical standard, and supplies cord blood to other approved research programmes throughout Europe.

CROs based in the Midlands - p14

Adkins Medical Market Research • Alta Bioscience • Astrimmune • Aurelia Bioscience • BCM Specials (a member of Alliance Boots) • Biopharma Stability Testing Laboratory • Birmingham Health Partners (BHP) • Catalent Pharma Solutions Ltd • CellAura Technologies Ltd • Cellomatics Biosciences Ltd • Charnwood Molecular Ltd • CHEATA • Chembiotech Laboratories • Clinigen • Co-Formulate Ltd • Crown Bioscience UK • Drugs with a Difference • Fleming Polymer Testing & Consultancy • Food & Drug Analytical Services Ltd • Gammadot Rheology • Haemostatix Ltd • Histologix Ltd • Ian Wilding Associates • Inocardia Ltd • Intelligent OMICS Ltd • Lucideon • Medsyndesign Ltd • Mercian Science Ltd • Morningside Pharmaceuticals • National Pollen and Aerobiology Research Unit (NPARU) • Neurosolutions Ltd • Paracelsis Limited • Parexel Informatics • Peakdale Molecular Ltd • Pepceuticals Ltd • PharMomentum Ltd • Pure Drug Safety Ltd • Quotient Sciences Ltd • RAPRA • Reach Separations Ltd • Sequani Ltd • Source Bioscience • Sygnature Discovery • • Synexus Ltd • TUV SUD Product Service • Tyg Oncology • Upperton Ltd • Wolfson Labs • Worldwide Clinical Trials • WRK Design Services Ltd •

Regulatory organisations based in the Midlands:

Advena Ltd • Birmingham Quality UK NEQAS • Lloyds Register Quality Assurance Ltd • Medical Device Consultancy • Maetrics

Innovation & research network - p18

National Centre for Sport and Exercise Medicine (NCSEM)



The NCSEM-EM aims to apply world-class expertise to policies and practice that will benefit the health and wellbeing of the nation, from everyday people at risk of ill health through to elite athletes. Evidence shows that sport, exercise, and physical activity are effective in the prevention, treatment and management of disease and can enhance mental health and wellbeing, reducing the risk of mental illnesses such as depression, dementia and Alzheimer's. The NCSEM-EM will build on this evidence in four key research areas which will be translated into teaching and training through our educational programmes and the clinical services we offer.

The NCSEM-EM is one of three hubs forming the National Centre for Sport and Exercise Medicine, along with London and Sheffield. The East Midlands hub is a partnership between the University of Leicester, Loughborough University, The University of Nottingham, University Hospitals of Leicester NHS Trust, and Nottingham University Hospitals NHS Trust.

ncsem.org.uk

Health & Allied Professions (HAP) Centre



The purpose-built Health & Allied Professions (HAP) Centre at the Clifton Campus, Nottingham Trent University, is home to world-class teaching, practice, research, and scholarship in the Institute of Health and Allied Professions (IHAP). The 34,000 square foot building features mock hospital wards, consultation and counselling rooms, creative teaching spaces and specialist equipment, providing students with the knowledge and skills required for a dynamic career in nursing, paramedicine, and healthcare.

<u>ntu.ac.uk/study-and-courses/courses/our-facilities/health-and-allied-professions-centre</u>

Resources

- 1. https://mihealth.org.uk/MIHealth/MidlandsStrengths
- $2. \ \underline{\text{https://www.medilinkmidlands.com/wp-content/uploads/2022/09/Driving-Life-Sciences-Business-in-the-UK-Midlands-Region-Brochure-4.pdf}$
- $3. \underline{https://assets.publishing.service.gov.uk/media/5a8171a6e5274a2e8ab5405b/midlands-engine-for-growth.pdf$
- $4.\ \underline{https://midlandsengine.org/wp-content/uploads/2023/06/2022-23-DBT-FDI-Midlands.pdf}$
- 5. https://www.midlandsengine.org/wp-content/uploads/2021/02/ME-Health-Focus_MedTechDev5.pdf
- $6.\ https://midlandsengine.org/wp-content/uploads/2023/11/Invest-in-UK-RD-Midlands-Universities-and-Health-and-Life-Sciences.pdf$
- $7. \underline{\text{https://midlandsengine.org/wp-content/uploads/2023/05/Exploring-the-Investment-Potential-of-Midlands-Clusters-Digital.pdf}$
- 8. https://livelearnearnwm.com/live/average-house-prices/



Get in touch...

The Department for Business and Trade is the UK's official Trade and Investment support agency, helping Businesses to locate, thrive and expand in the United Kingdom, as well as assisting businesses to grow internationally. We will turn plans into action, using our UK and regional sector expertise and connectivity into the Midlands ecosystem.

For free confidential support for your life sciences business contact the Department for Business and Trade Midlands Team at dbtmidlands@businessandtrade.gov.uk















Department for Business and Trade

We are the UK's department for economic growth. We support businesses to invest, grow and export, creating jobs and opportunities across the country.

We are responsible for:

- Redrawing our rules to ensure businesses thrive, markets are competitive and consumers are protected.
- Securing investment from UK and international businesses.
- Advising, supporting, and promoting British businesses to grow and export.
- Opening up new markets for businesses by removing barriers and striking trade deals.
- Promoting free trade, economic security and resilient supply chains.

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