





Contents

Executive summary	4
The opportunity	7
Skills & research	12
Cluster information	17
Soft landing & local support	19
Government & sector support	23
Case studies	27
Contact us	32



Diagnostics and Early Intervention for Healthy Ageing

5 core benefits for life sciences investors

- 1. A dynamic and global life science hub, connecting investors with customers, collaborators, supply chains, and innovation partners
- 2. An internationally competitive business and regulatory environment
- 3. A world-class biomedical science base, with access to unique talent, data and infrastructure
- 4. An expert clinical and research partner operating at scale in the NHS, which serves a diverse population
- 5. Long-standing partnerships between industry, government, academia, charities and the NHS

IT'S YOURS TO BUILD

your smart technologies in

Manchester, the UK's top

billion digital ecosystem and

supply the demand for smart

technologies.

Digital Tech City. Be part of a £5

1

Executive summary

Exploit growing demand for diagnostic solutions and innovative technologies to support healthy ageing.

Build a better future for healthy ageing with innovative diagnostics for early intervention

Greater Manchester and Cheshire and Warrington present the opportunity to design, test and commercialise diagnostic products and smart and assistive technologies to meet the increasing demand of an ageing population.

Identifying the demand: 22% of Manchester's population is over 50, 9.4% of residents are aged over 65 and the number of people aged 50-64 is likely to increase by 35% by 2027. People living in Manchester experience higher levels of ill health and early death than other major cities and towns in England, with particular health issues associated with ethnically diverse communities.

Ready to meet the challenge: as the UK's first World Health Organisation (WHO) age-friendly city region, Manchester demonstrates its commitment to identifying and implementing solutions to support healthy ageing. Home to leading research centres like Manchester Institute for Collaborative Research on Ageing (MICRA) and Salford Institute for Dementia and Ageing, and with support provided by Manchester Investment Development Agency Service (MIDAS), Greater Manchester Ageing Hub and the Growth Hub, among others, the location is full of opportunity.

Smart Technologies Design, test and commercialise Molecular and Digital Diagnostic Solutions

Validate and test your molecular and digital diagnostic solutions from a world-leading and innovative location. Collaborate with the UK's leading researchers.

Early Intervention & Therapeutics

Capitalise on the growing demand for early intervention products and therapeutics which minimise the impact of chronic age-related conditions.

Assistive Technologies

Access the large, diverse and ageing population to test and commercialise your product for a national and international market.

E80.7bn

UK life science industry turnover

E1.7bn

Digital health turnover

UK life sciences employees

+40%

Digital health turnover increased by £0.49bn

By 2050 there are projected to be 17.7 million people aged 65 and over in the UK

Sources: ONS, 'Living longer: is age 70 the new age 65?', Nov 2019; Office for Life Sciences, 'UK Life Sciences: Bioscience and Health technology Sector Statistics 2019'; MIDAS; IBISWorld, 'Diagnostic & Ambulance Services in the UK', June 2020; Manchester City Council and NHS Manchester, 'Manchester Population Health Plan 2018-2027'



Executive summary

Be part of the growing diagnostics and early intervention success story in Greater Manchester.

Target your Opportunity

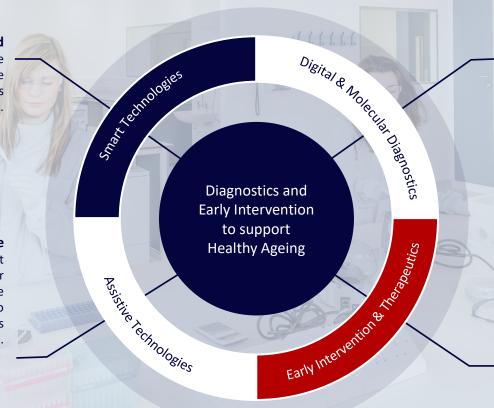
Healthy Ageing is a key focus of the UK government agenda and the World Health Organization has launched the Decade of Health Ageing (2020-2030) demonstrating the national and global aim to meet the needs of an ageing society. Manchester's position as the UK's first WHO age-friendly city region, and its participation in the European Innovation Partnership on Active and Healthy Ageing highlights the city's commitment to creating an inclusive and age-friendly society.

Respond to the growing demand

Develop and deliver smart healthcare technology solutions such as wearable technologies, connected devices and sensors for both national and international markets.

Support an age-friendly initiative

Develop the technologies that will support people as they age in their home, their community and at work. From remote monitoring technologies to the use of AI to analyse and interpret data, these innovations will improve the lives of people as they age.



Improve health and wellbeing

Develop and deliver diagnostic solutions to detect disease conditions, monitor progression and assess response to therapies – access a large, diverse and older population for clinical trials and get support to scale your solutions for national and international markets.

Improve prognosis of age-related conditions

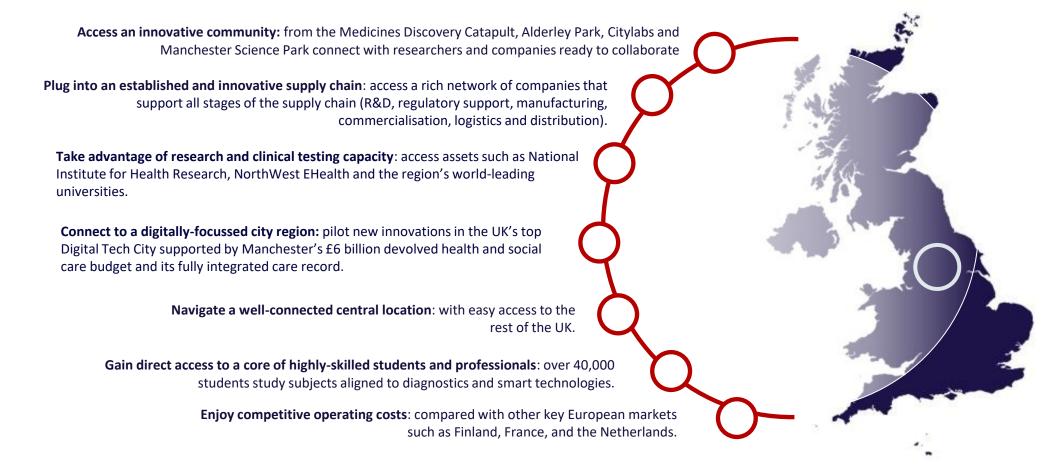
Manchester has high preventable mortality rates and significant incidences of chronic disease – a prime test bed to develop your early intervention and therapeutic technologies to tackle diseases like cancer, respiratory disease, hypertension and cardiovascular disease.

Executive summary

Greater
Manchester and
Cheshire and
Warrington is
one of the
largest life
sciences clusters
in the UK.

Access world-leading research and collaboration, data and a large, diverse patient population

Supported by well-established clusters connecting investors with customers, collaborators, supply chains, and innovation partners, combined with a unique life sciences ecosystem and Government commitment in partnership with industry, Greater Manchester and Cheshire and Warrington are an ideal test bed for your global market development. Capitalise on business support from a range of partners including MIDAS, Greater Manchester's Business Growth Hub, Greater Manchester Ageing Hub and the Cheshire and Warrington Growth Hub.



The opportunity

Design, test and commercialise your innovative diagnostics technology in one location.

Smart technologies

Digital and molecular diagnostics

Early intervention & therapeutics

Assistive technologies

Transform through smart technologies

An ageing global population and the increasing prevalence of chronic diseases have increased demand for smart healthcare technologies and telemedicine solutions. In the UK, hospital information systems, mobile apps and e-health account for 68% of turnover in the Digital Health segment.

Smart healthcare is a health service system that uses technology such as wearable devices, Internet of Things (IoT), and mobile internet to dynamically access information. It connects people, materials and institutions related to healthcare, and actively manages and responds to medical ecosystem needs in a secure and intelligent manner.

Design

- Manchester is the UK's Top Digital Tech
 City
- Manchester is home to a fast-growing £5 billion digital ecosystem
- Dynamic community of more than 10,000 digital and tech businesses

Manchester's digital and technology clusters, incubators and co-working spaces, such as Bright Building at Manchester Science Park, Citylabs, HOST Salford and Manchester Technology Centre give you the opportunity to design and develop your smart technology solutions from a thriving and world-leading location.

Test

Locations like Alderley Park and Manchester Science Park demonstrate the innovative and collaborative possibilities available in the region. And as home to a fully integrated care record of over 2.8 million people, Greater Manchester is a prime test bed location to trial and test your product with a large, diverse and ageing population.

Join other smart technology companies finding opportunities in the region

- > Pill Connect
- GrandCare
- > Evergreen Life

- > Gendius
- → Dignio
- → Amplifon

Commercialise

Manchester is the first UK city to have devolved control of its £6 billion health and social care budget which has allowed the region to develop a more streamlined innovation adoption pathway.

Health Innovation Manchester (HInM) works directly with healthcare practitioners to develop and deploy healthcare innovation into frontline services. HInM has an active portfolio of innovation projects including new technology and devices, digital products and tools. Be part of this objective to improve people's health and wellbeing.

Source: Invest in Manchester; Global Health Journal, 'Smart healthcare: making medical care more intelligent', Sept 2019, 3.3; Office for Life Sciences, UK Digital Health Segment Infographic: Bioscience and Health technology Sector Statistics 2019



Diagnostics solutions to enable early intervention and open routes to personalised medicine

Discover a world-leading location for digital and molecular diagnostics. Home to the Medicines Discovery Catapult and Alderley Park, as well as the Oxford Road Corridor housing the largest clinical academic campus in Europe and Precision Medicine centre of excellence, the region boasts expertise in biomarkers, mass spectrometry and clinical trials. Be part of this expanding and diverse network: develop your concept, trial it locally and scale it for national and international markets.

Innovative and skilled community

Life Sciences in Cheshire and Warrington

- Lighthouse Lab boasts a large and growing graduate workforce trained for the field of molecular diagnostics. Gain direct access to newly-trained, highly-skilled workforce
- > Collaborate with a community of organisations at Alderley Park
- Join multinational companies like Waters, using analytical technologies and industry leading scientific expertise to improve human health and well-being

Discovery to delivery in one location

- > Integrated healthcare system and electronic data records providing longitudinal datasets and ethically sourced biomaterial for testing new products
- > Strong partnership with organisations such as Health Innovation Manchester and Northern Health Science Alliance (NHSA) who can support access to NHS
- Large and diverse patient population and a prime test bed to develop and validate diagnostic solutions in local clinical trials supported by NIHR

Established innovation supply chain

Greater Manchester Life Science cluster

- Collaborate with a community of organisations at Manchester Science Park, part of Oxford Road Corridor
- Join multinational companies like Qiagen, using diagnostic technologies and industry leading scientific expertise to improve human health and well-being
- Become part of a rich network of companies at all stages of the diagnostics and early intervention supply chain for easy integration of diagnostic solutions:
 - Abbott Rapid Diagnostics
 - Hologic
 - Ascend Diagnostics

-) LumiraDx
- APIS AssayTechnologies

Radiology and diagnostic imaging accounts for 25.8% of UK market

5.5%

Compound annual revenue increase through to 2021-22

£11.9bn Revenue (2021-22)

3.3%

Compound annual revenue increase through to 2026-27

£14bn Revenue (2026-27)

Ageing population has increased demand

Photo credit: APIS Assay Technologies

MIDAS; IBISWorld, 'Diagnostic & Ambulance Services in the UK', June 2021

Assistive technologies

Smart technologies

Digital and molecular

diagnostics

Early intervention &

therapeutics

Early intervention products and therapeutics which minimise the impact of chronic age-related conditions are strongly in demand

According to Age UK, over half of older people have multi-morbidities i.e. at least 2 chronic conditions. Human health products (including human therapeutics like biotechnology-derived proteins, antibodies and enzymes, genetic therapies and diagnostics) represent 63% revenue (2020-2021).



Greater Manchester is a prime location to develop and trial your products and solutions, with higher preventable mortality rates than the rest of England, and significant levels of chronic disease including hypertension (13.6%) and coronary heart disease (3.9%), as well as 63% of adults classified as obese*.

Meet national and international demand for early intervention therapeutics.

*Data from NIHR based on 963,157 people . Obesity data from PHE. England 62.3%.



- Christie NHS Foundation Trust: world's largest early phase clinical trials unit
- iMATCH (Innovate Manchester Advanced Therapy Centre Hub): scale-up of Advanced Therapy Medicinal Products (ATMPs)
- Manchester Experimental Cancer Medicine Centre (ECMC): leads in cancer research
- UK Spine Knowledge Exchange identifies improved therapeutics for older people and reduces impact of age-related co-morbidities. The Medicines Discovery Catapult is the region's key partner

Early intervention and therapeutics

Assistive technologies



Alderley Park has a strong track record of drug discovery and development and Manchester Science Park offers lab and office space, and business support in the largest clinical, academic campus in Europe – just 2 of the region's hubs that you can access.

Join an innovative community and access business support to get your products to market.

Join therapeutics companies

- > F2G
- Geistlich Pharma
- > Instil Bio
- > Phagenesis

Access support, clinical trials and test bed opportunities to supply demand.

Preventable mortality (per 100,000)	Greater Manchester	England
Cancer	93.8	73.6
Cardiovascular Disease	63.9	45.3
Respiratory Disease	27.9	19.2
Overall mortality from preventable causes	239	226.8
Emergency admissions due to falls >65s (per 100,000)	2532	2170
Data Holli GiviliSci		

Source: HM Government, 'Industrial Strategy: Building a Britain fit for the future', 2018; AgeUK, 'Later Life in the UK 2019'; IBISWorld, 'Biotechnology in the UK', Sept 2020; Manchester ECMC, ATTC Network, iMATCH, Christie NHS Foundation Trust; Manchester City Council and NHS Manchester, 'Manchester Population Health Plan 2018-2027'

Exploit a growing assistive technology sector

Developed by the WHO, the **age-friendly framework** is about working with older residents to improve the physical and social environment, including making changes to housing, transport and outdoor spaces and removing barriers for older workers. Assistive technology (AT) is key to many of the innovations that will help deliver on these changes.

AT is any device or equipment that helps people to live healthy, satisfying and independent lives. It supports and assists individuals with disabilities, restricted mobility or other impairments to perform functions that might otherwise be difficult or impossible, helping them stay independent and active for longer – both in their own homes and in the workplace.

Local and Ageing Population

Access to an ageing, large and diverse population with a range of chronic diseases and conditions makes Greater Manchester and Cheshire and Warrington the prime location for you to develop and commercialise your innovative, novel, digital assistive technologies.

Innovative and Novel Technologies

Innovations in monitoring technologies, telehealth, the use of AI, AR/VR and soft robotics to assist the ageing population, and apps to streamline access to health services, are transforming how people live. With older

people in Manchester more likely to live alone, the city region is a prime opportunity to identify and solve problems for people as they age.

Ecosystem of innovation

Join an established, innovative community of companies finding solutions to assist people in their homes:

- Safe Steps
- Howz
- SilVR Adventures

Digital and molecular diagnostics

Smart technologies

Early intervention and therapeutics

Assistive technologies

76%

Social care providers say AT has improved outcomes for people they support

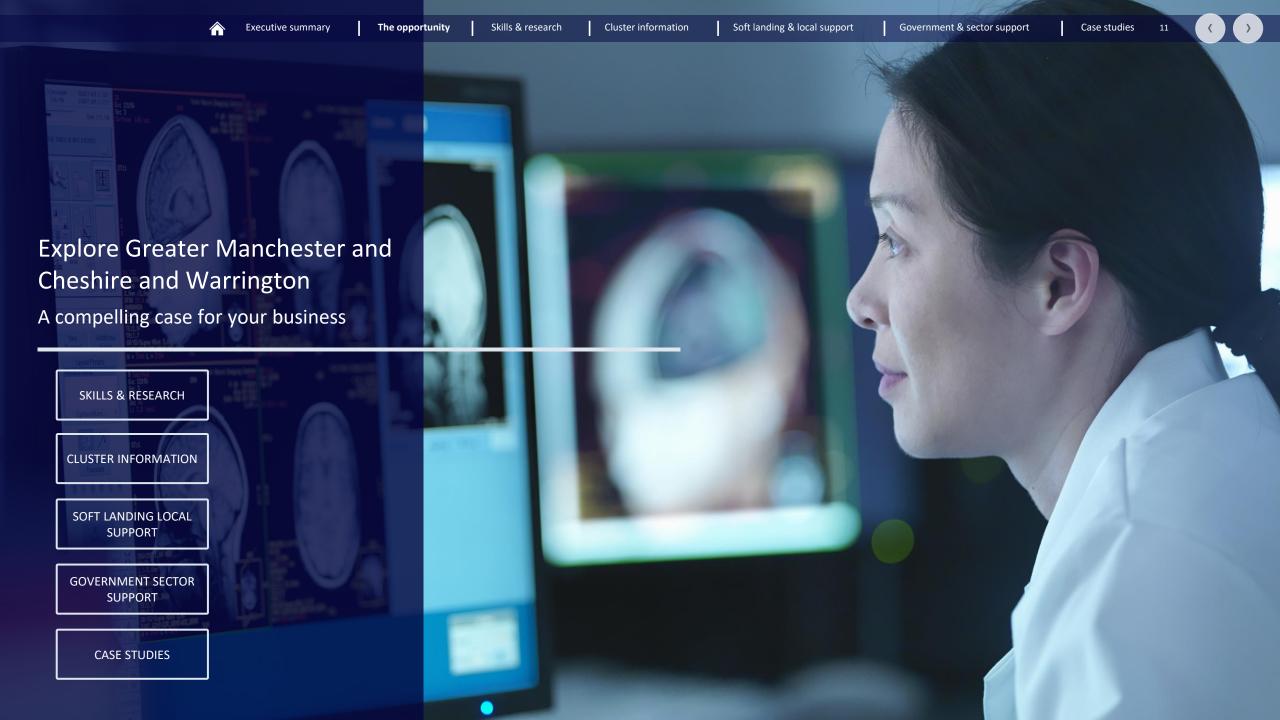
79%

Communication aids most common type of technology

Cost

Main barrier to using assistive technologies





Skills & research

Capitalise on world-class diagnostics and early intervention research, and access an existing skills base for you to succeed now and in the future.

Skilled and experienced workforce ready to support your investment

Greater Manchester and Cheshire and Warrington have the skills, talent and capabilities from expertise in the life sciences sector to digital and advanced manufacturing capabilities which can support diagnosis and early intervention. Access the skills you need from a dynamic, central location.

Existing skills base

A central geographical location puts the region at the heart of the Northern labour market giving business access to one of Europe's largest commuter workforces.

Skills base for the future

The region's universities boast strengths in academic and clinical research as well as computer science and engineering. The universities produce highly-skilled graduates each year ready to pursue their career in the region.

Manchester boasts a robust existing skills base



Access skills training

The region supports training and is committed to ensuring its workforce is highly-skilled.

Lighthouse Labs trained **300 scientists** in molecular diagnostics at the Alderley Park facility in just 4 weeks.

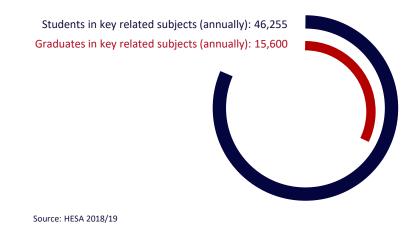
Manchester Academy for Healthcare Scientist Education (MAHSE) is a group of partner universities responsible for the development and delivery of health scientist training programmes for a range of specialisms.

Apollo Buckingham Health Science Campus (ABHSC), based in Crewe, is the UK's first dedicated Health Science Campus and a hub for professional healthcare in the region. Their courses offer routes to essential careers for the changing approaches, requirements and challenges of healthcare globally.

The Growth Company Education & Skills is **one of the largest providers of work-based learning** for young people and adults. They offer apprenticeships, traineeships and courses to enable people to kick-start their careers or raise their skill level.

Leading institutions developing a pipeline of talent for your business now and in the future

The whole region is perfectly placed to benefit from a steady pipeline of students and graduates educated for the diagnostics and early intervention sector:



Globally ranked universities such as the University of Manchester and Manchester Metropolitan University are offering degrees in relevant courses.

Students currently studying at local Higher Education institutes



The graduate pool is strengthened by specific courses and world-class research centres.

The University of Manchester

18,095

students in relevant subject areas

Ranked 27th globally, 52nd for Life Science and 55th for engineering, the University of Manchester is recognised for the calibre of its clinical and academic research. It is ranked as the 23rd most international university in the world and has one of the biggest student communities in the UK.

Manchester Metropolitan

9,145

students in relevant subject areas

ManMet prides itself on a strong record for research, skills and business assists. Healthcare diagnostics and innovations build on specialisations in musculoskeletal science and nutritional physiology, underpinned by excellence in AI, machine learning and data science. Innovation programmes support business in digital innovation.

University of Salford

9,520

students in relevant subject areas

The university adopts a multidisciplinary approach with excellence in Robotics & Artificial Intelligence, 3D printing & prototype development, Cyber Security Big Data, Data Mining and Analytics addressing the broad-spectrum skill sets required for healthcare innovation.

University of Chester

5,655

students in relevant subject areas

University of Bolton

3,840

students in relevant subject areas



Access the region's research and development strengths

University research centres and programmes and clinical trials capabilities demonstrate the region's strengths in finding solutions to helping people age better.

Autonomous Systems & Advanced Robotics (ASAR)

Based at the University of Salford, ASAR is an internationally-leading research centre with excellence in soft robotics, AI, embodied intelligence and cognition, automation, robot/machine design, dexterous end effectors, legged robots, biologically-inspired robots, haptics/telepresence, Human Robot Interaction, rehabilitation robotics, cognitive robotics and uninhabited autonomous systems.

<u>Christabel Pankhurst Institute for Health Technology</u> <u>Research and Innovation</u>

Promoting needs-led health technology research and innovation and providing end-to-end support for translation into practice, the Institute acts as an external flagship for the University of Manchester's rapidly expanding health technology portfolio. The Institute develops innovative solutions to pressing health and care challenges, fostering new collaborations, improving lives and catalysing growth in the health innovation business sector.

PANTER

Manchester Institute for Collaborative Research on Ageing (MICRA)

Based at the University of Manchester, MICRA undertakes cross-disciplinary and collaborative research to address the challenges posed by ageing populations. Its researchers represent some of the world's foremost thinkers and scientists addressing the key questions into how ageing affects our biology, society and health.

Research Groups

- > Healthy Ageing Research Group (HARG)
- International Network on Population Ageing and Urbanisation (INPAU)
- > Manchester Urban Ageing Research Group
- > Work and Retirement Research Group

<u>Manchester Molecular Pathology Innovation Centre</u> (<u>MMPathIC</u>)

MMPathIC aims to translate discoveries into tests by providing an environment to facilitate the translation of stratified medicine and biomarker research into usable tests that can be implemented within the NHS.

Medicines Discovery Catapult (MDC)

Focussed on reshaping the medicines discovery industry, the Catapult offers space with the facilities and expertise to enable businesses and researchers to collaboratively solve key problems and develop new products and services – taking innovative ideas from concept to reality. Located at Alderley Park, MDC provides:

- extensive experience in industrial medicines discovery and informatics
- access to innovative technologies, platforms, and outsourced, multiparty R&D
- > access to patient samples and valuable patient insights

MDC co-ordinated the creation of the UK's <u>Lighthouse</u> <u>Labs Network</u> – dedicated to COVID-19 testing.

Access the region's research and development strengths

University and academic research partnering opportunities demonstrate the region's strengths and enthusiasm for collaboration

NIHR Biomedical Research Centre (BRC)

Manchester's National Institute of Health Research (NIHR) Biomedical Research Centre (BRC) is the largest in the North of England and the heart of translational research across Greater Manchester, transforming scientific breakthroughs into diagnostic tests and lifesaving treatments for patients.

The BRC consists of 7 themes that will drive forward pioneering research into new tests and treatments in the areas of musculoskeletal disease, hearing health, respiratory disease and dermatology and three cancer themes (prevention and early detection (PED), radiotherapy and precision medicine). Manchester Centre for Genomics Medicine (MCGM) is a key participant in several of these themes.

Salford Institute for Dementia and Ageing

Launched in 2014 as the Salford Institute for Dementia to conduct vital research and community engagement work into living well with dementia, the centre was renamed in December 2020 in recognition of the institute's work on ageing.

Stoller Biomarker Discovery Centre (SBDC)

Located in Citylabs campus, SBDC is industrialising biomarker discovery, development and validation for diagnostic, prognostic and therapeutic selection applications. The research will boost work led by the University of Manchester to identify new biomarkers for response to therapy in diseases such as rheumatoid arthritis, Alzheimer's disease and psoriasis.

Validation Centre of Excellence (Alderley Park)

£15.5 million investment was announced in August 2020 to create a Validation Centre of Excellence at Alderley Park for innovative diagnostics, biomarkers and complex medicines, and develop the UK's onshore diagnostic capability and capacity and associated supply chain.





Benefit from the region's clinical trials capabilities

The region's robust clinical trials capabilities demonstrate its strengths in finding solutions to the problems that affect us as we age.

The Christie NHS Foundation Trust

The Christie is the largest single-site cancer centre in Europe and the first UK centre to be accredited as a comprehensive cancer centre. Over 1,500 patients are participating in clinical trials (2019-2020) and in 2018-19 there were over 650 active research studies. The current portfolio of Christie research is made up of early phase clinical trials (35%), late phase clinical trials (43%) and other research including basic science, biobank and observational studies (22%). The National Institute for Health Research (NIHR) Manchester Clinical Research Facility (CRF) at The Christie NHS Foundation Trust specialises in early-phase and first-in-human clinical research trials.

NorthWest EHealth

Provides the pharmaceutical industry with an alternative approach to clinical trial design and management to safely accelerate drug development programs, enabling critical new drugs to reach patients faster. It is the leading expert in the field of electronic health records (EHRs) enabled randomised clinical trials (RCTs) and the only FDA-approved platform for ERCTs in the world. It is the only organisation in the world to have evaluated the safety and effectiveness of a pre-license medicine in a real-world setting.

NIHR Clinical Research Network (CRN)

Comprising 25 Local Clinical Research Networks and 30 Specialities, the CRN supports patients, the public and health and care organisations across England to participate in high-quality research to advance knowledge and improve care.

Hosted by Manchester University NHS Foundation Trust, CRN Greater Manchester is the top performing for recruitment to time and target on commercially-sponsored studies, providing practical support to allow high-quality research to take place across Greater Manchester, East Cheshire and East Lancashire. In 2020/21, the CRN supported the recruitment of over 80,000 participants on to research studies.

Manchester Clinical Trials Unit (Manchester CTU)

Collaborates and conducts high-quality clinical research that leads to individual and societal benefit. Registered by the UK Clinical Research Collaboration (UKCRC), CTU receives funding from NIHR, CRUK, The University of Manchester and Health Innovation Manchester. They currently manage a portfolio of 39 trials, totalling £18m of grant funding.





Cluster information

Greater
Manchester and
Cheshire and
Warrington
boast superb
connectivity and
access to a clear
customer,
partner and
supply base.

Get connected to the world

A connected transport network providing access to the rest of the UK, Europe and beyond. Manchester has the best international connectivity in the UK outside of London and is the preferred distribution hub for world-renowned companies including XPO Logistics.



Air

Manchester Airport connects more than **27 million passengers** each year to over 210 cities. It also handles around of **100,000** tonnes of import and export freight and mail annually.

The region also benefits from its proximity to Liverpool John Lennon Airport which sees over **5 million passengers** per year with flights to **over 70 destinations** in the UK and across Europe.

Rail

Trains travel every 20 minutes between Manchester and London, with a journey of just over 2 hours.



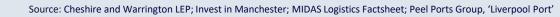
Road

Manchester's motorway network places **Leeds, Liverpool and Birmingham within easy driving distance**. And the West Coast Main Line, national motorway network, and the M6, M62 and M56 axis ensure Cheshire and Warrington benefit from the high quality strategic support infrastructure.

Shipping

The region benefits from its proximity to Liverpool Port – one of the largest, busiest and most diverse ports in the UK. It is also home to Liverpool2, a deep-water container terminal which has doubled the port's container capacity making it one of the country's best-equipped and connected terminals. In March 2021, Liverpool City Region was announced as one of eight places across England that will be granted Freeport status. This extends to and includes Port Salford.





Access a clear customer, partner and supply base

Find yourself in one of the largest life sciences clusters in the UK, renowned for its health innovation research. Manchester is recognised as the UK's first World Health Organisation Age Friendly city region.

Engage with a growing and vibrant cluster

World-leading brands such as Hologic have a presence in the region; Alderley Park is home to 2000 innovators, as well as 60 established and 150 pre-start-up companies with shared scientific services and fully-funded business and innovation support; and the Medicines Discovery Catapult continues to attract innovators with dynamic healthcare solutions to the region.

Access an established support network through specialist service providers, plentiful networking opportunities, supportive local institutions and strong cross-sector awareness.

Tap into a well-connected supply chain and integrate into a dynamic and robust life sciences community.

Strong ecosystem

Manchester is the first region in the UK to have a fully integrated care record for its 2.8 million citizens. Its 11.8 million extended patient population makes it a unique opportunity for life science companies, and with the best international connectivity in the UK outside of London it is a key location for developing, testing and commercialising your products.

Join a wealth of companies specialising in healthcare and life sciences activities such as:

- > Thermo Fisher Scientific
- > Ex⁵ Genomics (part of Yourgene Health)
- > Brooks Life Sciences
- APIS Assay Technologies
- > Nexcelom Bioscience
- Proteintech Group

Well-connected Supply Chain

Manchester is the preferred **distribution hub** for global companies like Procter & Gamble and major **logistics firms** like XPO Logistics and Kuehne+Nagel, making it an ideal place from which to reach national and international customers.

Contract Research Organizations (CROs) provide quality assurance services and innovative and integrated solutions to their clients:

Aptus Clinical

Unit

Concept Life Sciences

> Sai Life Sciences

> Intertek

> SEDA

> Medicines Evaluation

Find **consultancy firms** who specialise in quality assurance and regulatory affairs such as QMS Consultancy and Flintloque, and healthcare research and industry analysis from the likes of Decision Resources Group.

Engage with **creative marketing and communications firms** such as AZoNetwork and Ashfield Healthcare Communications.

Access digital and cloud computing support from Google Healthcare Cloud.

Soft landing & local support

A costcompetitive location and soft landing support packages to support your investment.

A competitive package against other leading global locations

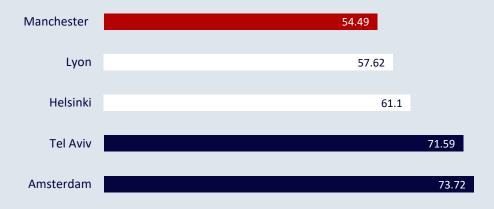
Manchester was voted the Most Liveable City in the UK (2019 and 2021). From its international cultural attractions to the natural beauty of the Pennines and the Peak District, the region has something to suit all lifestyles and interests.

And together with Cheshire and Warrington you can benefit from one of the strongest and best performing economies in England, with workforce productivity levels rivalling those generated anywhere in England outside of the capital.



Cost of Living plus Rent Index*

Manchester has the lowest cost of living including rent compared to other locations.



^{*}Figures for Cheshire and Warrington were not available.

These indices are relative to New York City (NYC). Which means that for New York City, each index should be 100(%). Cost of Living Plus Rent Index is an estimation of consumer goods prices including rent comparing to New York City

Source: Numbeo, Cost of Living Index

Additional sources: MIDAS, 'Invest in Manchester'; Cheshire and Warrington LEP; Metro, 'These are the 50 'most liveable' cities in the world', June 2021



Cost effective salaries

Salary costs in the region are competitively lower than other global locations.

	Laboratory Technician	Laboratory Specialist	Machine Learning Engineer	Data Scientist	Medical Advisor
Cheshire & Warrington (LEP)	23,907	33,489	65,932	71,244	73,106
Greater Manchester (LEP)	23,931	33,560	66,072	71,396	73,350
Lyon	30,135	43,747	75,365	81,278	82,818
Helsinki	34,412	49,838	80,408	86,603	95,205
Amsterdam	37,647	53,504	99,959	106,070	116,004
Tel Aviv	25,919	49,870	106,485	110,530	121,488

Averages in £000s (European cities converted from €)

Source: fDi Benchmark from the Financial Times Ltd 2020

Collaborate with supporting and specialist industry hubs

The Oxford Road Corridor is at the heart of Manchester's Knowledge Economy and a recognised centre for science, R&D, and the commercialisation of ideas and innovation. Home to the largest clinical academic campus in Europe, it attracts clinicians, students and researchers from around the world. Access key benefits by being located in one of the facilities along the corridor and its proximity to the region's universities and NHS trusts.

Citylabs

A precision medicine and genomics hub, Citylabs is a Bruntwood SciTech development and a partnership between Manchester University NHS Foundation Trust (MFT) and Manchester Science Partnerships. Access 150 like-minded life science and tech businesses in Manchester and a further 500 across England in the Bruntwood SciTech network.

- Home to over 20 diagnostics, medtech, digital health and genomics businesses, including QIAGEN and their Global Centre of Excellence for Precision Medicine.
- Access a unique pathway to partnership with opportunities to collaborate and direct access to MFT clinicians, resources and patients, joint clinical trials, sample supply, diagnostic collaborations, medtech adoption and research.
- > Expansion in Citylabs 4.0 offers a unique opportunity to join the campus

Manchester Technology Centre

This digital hub is home to the Manchester Tech Incubator and a unique cluster of some of the region's most disruptive, fast-growing digital innovation startups and scale ups. Offers flexible office and meeting space, business support and a range of health, social and wellbeing events.

Sample of companies in Citylabs

- Yourgene Health
- APIS Assay Technologies
- Ascend Diagnostics
- Imagen Therapeutics
-) LumiraDx
- Circular1 Health
- Chromition
- > The Genome Store

Manchester Science Park

With office space, lab space and bespoke programmes of business support in the heart of the largest clinical, academic campus in Europe, this MedTech and digital hub is home to an innovative community of some of the most disruptive, fast-growing science and tech businesses. Manchester Science Park can support your business with:

- Access to finance
- Access to talent
- Access to their partner network
- Access to their events programme

The <u>Bright Building</u> is located at the heart of Manchester Science Park providing a state-of-the-art hub for businesses to come together, socialise, and collaborate with affordable, high-spec office space, flexible leases, as well as business support.



Be part of a dynamic and collaborative environment

Specialist advice, lab space and a research community open for innovation is readily available to help you get started.

Alderley Park

Located only 17 minutes from Manchester Airport and just 1.5 hours from London this is home of the internationally-recognised Mereside bioscience campus.

- More than 1m sq. ft of high specification lab space ranging from a single desk in a shared space to a large lab
- A range of scientific services such as the in-vivo facility, imaging and access to top-tier equipment through collaboration with Waters & Cytiva
- An accelerator delivering a comprehensive programme of business support for start-ups and scale-ups
- > Home to a vibrant and fast growing community of over 60 established and 150 pre-start up companies

The newly re-developed 'Glasshouse' opened in February 2020 for digital and tech companies

> 150,000 sq. ft of high specification, collaborative workspace for forward thinking, innovative businesses

Also home to 2 National Institutes: Cancer Research UK (CRUK) and Medicines Discovery Catapult (MDC) as well as Lighthouse Labs. Alderley Park runs the <u>Oncology Development Programme</u>, an accelerator run in conjunction with Innovate UK and CRUK.

HOST Salford

Previously called The Landing, HOST Salford is a tech and innovation hub at the heart of MediaCityUK.

- > Supporting innovation with access to a 5G lab, UX labs, VR/AR labs and 3D printing lab
- > Facilitating collaboration with coworking and conferences spaces, community events and corporate links
- > Enabling growth with flexible office space, recruitment specialists, fully-funded workshops and introductions to accelerators.

Hexagon Tower

Hexagon Tower is a specialist science and technology facility offering modern laboratories and unrivalled accommodation for science and technology-based organisations, and local businesses. The range of businesses represented at Hexagon Tower provides ample opportunities for effective social and business networking. Companies with laboratories at Hexagon Tower can rely on the expertise of the site team and access support services including:

		The state of the s	
Facilities support		Business support	
	Hazardous waste disposal	IP support	
	Laboratory gases provisions	Finance and growth capital	
	24-7 helpdesk	Collaboration facilities	
	Laboratory design	Business networks (as part of We are Pioneer Group)	
	Operational best practice	Start-up and scale-up support	

Access a well-connected network of support

Growth Hubs and inward investment agencies offer support and help to drive your business forward. A collaborative ecosystem of funders, investors, academics and government to share insights, experiences, expertise and best practice.



MIDAS

The inward investment promotion agency for Manchester has helped hundreds of businesses successfully relocate to or expand in Greater Manchester. They offer an extensive package of free advice and assistance for potential investors and location consultants. MIDAS has a strategic aim to secure significant levels of new investment for the city region to create and safeguard jobs.



Business Growth Hub

BGH support businesses across Greater Manchester at all stages of their growth journey to realise their ambitions. They offer expert one-to-one and peer-to-peer business support, events, specialist programmes, funding and much more.



Academic Health Science Network

The Academic Health Science Network is the innovation arm of the NHS. AHSNs connect all partners across sectors: NHS and academia, local authorities, the third sector, industry and citizens. AHSNs work collaboratively, identifying and supporting the successful development of innovations in the local regional healthcare communities and helping to spread these across the national Network. Health Innovation Manchester and The Innovation Agency are the 2 AHSNs for the region.



Cheshire And Warrington Growth Hub

Part of the Cheshire and Warrington Local Enterprise Partnership (LEP), the Growth Hub provide bespoke support to businesses at every stage of their growth journey from start-ups to large businesses.

Access Funding and Investment Support

Funding options and investment support is available across Greater Manchester and Cheshire and Warrington.

Greater Manchester and Cheshire Life Sciences Fund – a seed and early stage venture capital fund targeting life sciences businesses located in the Greater Manchester and Cheshire & Warrington region. The Fund is managed by Catapult Venture Managers and is based at Alderley Park.

<u>Growth Company (GC) Business Finance</u> - provides alternative business finance options for growing businesses that have been unable to obtain funding through a mainstream lender.

Access to Finance (A2F) – offered by the Business Growth Hub A2F provides SMEs in Greater Manchester and Lancashire with bespoke funding support, signposting the products and providers which will unlock their business growth.

Government & sector support

The UK has a dynamic and flexible life science sector, underpinned by a supportive regulatory environment.

Diagnostics and intervention to support ageing a key focus of the Government's Life Sciences Vision

The Life Sciences Vision builds on the successes of the Life Sciences Industrial Strategy and sector deals and aims to build on the scientific successes and ways of working from COVID-19 to tackle future disease challenges including cancer, obesity, dementia, ageing; securing jobs and investment and becoming the leading global hub for Life Sciences.

Themes and Healthcare Missions

The Vision has 4 key themes that the government, NHS and other partners will focus on to create the environment in which industry can grow and succeed in the UK, and patients and the NHS can receive a real benefit:

- Building on new ways of working from COVID-19 to tackle future diseases
- Building on UK's science and clinical research infrastructure and harnessing the UK's unique genomic and health data
- Supporting the NHS to test, purchase and spread innovative technologies
- Creating the right business environment in the UK

The Vision's 'Missions' are technology or disease specific and include improving translational capabilities in neurodegeneration and dementia, enabling early diagnosis and treatments and addressing the underlying biology of ageing, among others.

People and Skills

The Life Science Sector Deal outlined plans to strengthen UK STEM education and build a skills strategy to future-proof the workforce. The LS Vision outlines Government commitment to work in partnership with industry to ensure the Sector has the tools it needs to recruit, reskill and develop employees in both specialist and non-specialist roles.

Addressing Healthcare Challenges

The Sector Deal set out a bold vision for a pioneering Health Advanced Research Programme putting the UK at the forefront of addressing the challenges facing healthcare systems globally. The Vision aims to address great healthcare challenges such as dementia, cardiovascular disease and ageing

Source: Gov.uk, 'Government to invest over £130 million in new tech to tackle cancer and debilitating illnesses', Sept 2019; Gov.uk, 'Life Sciences: Sector Deal', Dec 2018; BEIS, 'UK Research and Development Roadmap', Jan 2021; HM Government. Life Sciences Vision

Life Science Sector Deal

Government and life sciences sector agreed Sector Deal to unlock growth for life science and healthcare businesses.

www.gov.uk/government/publications/life-sciences-sector-deal

£500m

£1bn+

Government support for major new research programmes

New industry investment

Meet the needs of an ageing society

The Government has identified healthy ageing as a key focus to support the UK's ageing society.

£130m

Investment to support healthcare innovation

£22bn

Increase in public R&D investment to £22bn per year by 2024-25

Business Environment

The Government plans to support economic growth through investment in infrastructure, skills and innovation as outlined in the Government's Build Back Better plan for growth. The Life Sciences Vision echoes ambitions to create an outstanding environment for life sciences business to start, grow and invest.

Photo credit: APIS Assay Technologies

Health Innovation is Key to Local Strategies

Local strategies highlight digital health innovations as well as advanced therapeutics and diagnostics as key regional strengths which will support people as they age.

Places

The UK Government has committed to implementing a regional approach to the Sector Deal, working closely with Devolved Administrations and cluster organisations representing the sector.

Local Strategy

Greater Manchester identifies Health Innovation as a key opportunity and announced the establishment of an Innovation Partnership for Healthy Ageing and plans to establish an Innovation Centre for Action on Healthy Ageing (IPAHA) to drive real-world testing and commercialisation of health, care and wellbeing innovations that support healthy ageing.

With its world-class research centres including MICRA, Salford Institute for Dementia and Ageing and Health Innovation Manchester, the Greater Manchester Ageing Hub and its position as the UK's first WHO age-friendly city region, Manchester is well-placed to address the challenges and opportunities to assist and support people as they age.

Health Accelerator Programme

Greater Manchester has launched a new accelerator programme inviting SMEs to collaborate with research and innovation institutions to support the development of innovative health and care products. Health Innovation Manchester (HInM) managing the Innovation Pipeline to work with SMEs to develop and bring new healthy ageing technologies into routine use.

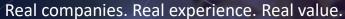
A Government Sector Deal to support innovation and a local strategy that identifies Health Innovation as a key opportunity clearly demonstrates the supportive environment you can tap into within a dynamic and flexible life science sector.



Associations, regulatory bodies, and funding providers can provide additional information, support and links to suppliers and customers

Industry Associations Research and Collaboration **Diagnostics and Technology Accelerator Centre for Ageing Better Association of British HealthTech Industries** Identifies key research questions and convene the Charitable foundation working to improve later life teams of all relevant stakeholders to efficiently achieve Leading industry association for health technology. for everyone. shared goals with collaborators. **Association of the British Pharmaceutical Health Innovation Manchester** iMATCH (Innovate Manchester Advanced AHSN for Greater Manchester. Work with Industry (ABPI) Therapy Centre Hub) Trade association for UK companies producing innovators to discover, develop and deploy Consortium focused on scale-up of activity in prescription medicine. solutions to improve health and wellbeing. ATMPs. **BioIndustry Association (BIA)** The Innovation Agency National Institute for Health Research (NIHR) Trade association for innovative life sciences in the Provide support for international companies, The nation's largest funder of health and care UK. particularly through the Bridgehead Programme. research. **Innovation Support Bionow** Northern Health Science Alliance (NHSA) KTN Linking new ideas and opportunities through its Membership organisation supporting the North of England's health partnership bringing biomedical, pharma and life sciences sectors together ten universities, ten research-intensive NHS network of businesses, universities, funders and Trusts and four AHSNs. across the North of England. investors. **Regulatory and Assessment BioPartner Medicine and Healthcare Products Regulatory Medicines Discovery Catapult** An independent, accredited trade organisation Agency (MHRA) Enabling the community to reshape medicines that supports UK international trade for Life Executive agency responsible for the regulation of discovery in the UK. Sciences. medicines and medical devices. **National Institute for Health and Care BIVDA UKRI Excellence (NICE)** Non-departmental public body sponsored by BEIS National industry association for the manufacturers and distributors of IVD products in and the UK's largest public funder of research and (NICE) provides national guidance and advice to the UK. improve health and social care. innovation.









Case Studies

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Based on Manchester's vision to establish a global genomics campus, the MCC investment into APIS already results in growth and very positive momentum as it brings together scientific expertise and cutting-edge technologies to develop novel biomarkers to help diagnose disease for patients in Greater Manchester and around the globe.

Sir Richard Leese Leader of Manchester City Council (MCC)

APIS Assay Technologies

APIS Assay Technologies Ltd, founded November 2018, combines outstanding In Vitro Diagnostics (IVD) experience with integrated AI to develop biomarker-based diagnostic assays. Located at CityLabs 1.0, the heart of Manchester's Life Sciences ecosystem and part of the wider Genomic Health Innovation Campus situated in the UK's largest clinical campus.

APIS develops new tests for the prediction, prevention, and diagnosis of disease from discovery to clinical adoption. The company's business model is based on three pillars: biomarker diagnostics development, molecular diagnostic contract development, and applied bioinformatics.

Using AI-enabled data mining, the company mission is to address directly the failures in biomarker translation and industrialisation and identify novel biomarkers, targeting oncology, inflammatory, autoimmune, infectious disease, and inherited disease areas. The current COVID-19 pandemic and past challenges with HIV, Tuberculosis and Malaria demonstrate the importance of effective diagnostics & therapies. Rising to these challenges, APIS are developing a highly specific and sensitive array of COVID-19 immunodiagnostic assays.

Dr Joachim Schorr, CEO of APIS, said: "We are delighted with the strong progress building up our Biomarker development pipeline with currently 9 biomarker projects in development.

"With more than 150 years of combined experience in biomarker research, and a team of currently 65 employees, offering an end-to-end IVD development service and extensive expertise in bioinformatics – APIS is well positioned for success," added Ian Kavanagh, COO of APIS.

Read more case studies

Hologic

APIS Assay Technologies Kinomica SilVR Adventures Safe Steps







The site at Alderley Park is an inspiringly beautiful place to work and live, with minimal cost for hot desks and lab space, including shared lab spaces. And when it came to raising series A money, the Alderley Park team were able to provide practical pitch-deck training, showcase events and introductions to highly respected life sciences investment houses.

Jane Theaker CEO, Kinomica

Kinomica

Kinomica's disruptive, cell-signalling profiling-technology, KScan®, is delighting its global pharmaceutical customers with drug-response predictions that surpass the current state of the art.

Kinomica CEO Jane Theaker explains why she loves the Alderley Park site so much. "We have a great technology spun out from Queen Mary University London and the world-class accelerator course at Alderley Park honed and polished the investment proposal, allowing us to quickly raise the necessary seed money from the Alderley Park angel network. It also introduced us to Pharma customers, enabling us to commercialise really rapidly.

The site at Alderley Park is an inspiringly beautiful place to work and live, with minimal cost for hot desks and lab space, including shared lab spaces. And when it came to raising series A money, the Alderley Park team were able to provide practical pitch-deck training, showcase events and introductions to highly respected life sciences investment houses. I know the ecosystem attracts large companies looking to acquire smaller innovative companies. A previous company I was involved with, DxS, was acquired by QIAGEN. Quite simply, this area has all the support you need to rapidly spin out, scale and exit."

Read more case studies

APIS Assay Technologies	Kinomica	SilVR Adventures	Safe Steps
Hologic			







Established in 2019 and with clients across Australia & New Zealand, expanding to the UK was a logical next step. The UK has similar care market issues and opportunities, but the decision to set up in Manchester was driven by the High Potential Opportunity for health innovation in healthy ageing.

Colin Pudsey Founder and CEO, SilVR Adventures

For more information, contact: sales@silvradventures.com.au www.silvradventures.com.au @SilVRAdventures

SilVR Adventures

SilVR Adventures is an Australian start-up that has launched in Manchester; providing an award-winning Virtual Reality (VR) based enrichment experience and communication solution that helps to reduce feelings of isolation and significantly drive social engagement.

Their mission is to enrich the quality of life for seniors with meaningful activities that bring joy through virtual reality and the solution offers residents of care providers the chance to chat, travel the world and even watch a classic movie with other residents, all in a virtual world.

Experiences can be shared together across any geographical location, meaning residents can enjoy virtual trips together while in different rooms or even in different cities. The diverse range of content available within SilVR Adventures' VR library of 360° virtual tours around the world means care teams can embrace individual preferences and create something truly meaningful. In addition, the VR solution is used to bolster Memory Support activities and trigger recollections by revisiting places of personal significance such as childhood homes or a wedding venue and stimulate conversations and joy through music inspired reminiscence therapy.

Read more case studies

APIS Assay Technologies	Kinomica	SilVR Adventures	Safe Steps
Hologic			





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The collaborative environment in Manchester has allowed us to test and trial our product and roll it out at scale across Greater Manchester. This has had a huge impact on older people and eased pressure on services. For us as a company it's been extremely rewarding working within the progressive health tech business environment Manchester offers. Without doubt Manchester is a great place to scale up your healthy ageing business in the UK.

Lee Omar Chief Executive, Safe Steps

Safe Steps

1 in 3 adults over 65 living at home, will have at least one fall a year and half of these will have more frequent falls. 40% of people who suffer from a fall are left with a moderate or extensive injury. However, the impact of falls often goes beyond the physical, with over one-fifth of people losing their confidence and being more at risk of falling again.

Safe Steps is a digital falls risk assessment tool, providing a standardised approach for falls management across care settings. In alignment with NICE guidance, carers measure 12 risk factors for early identification of high-risk citizens and the tool creates personalised action plans based on 50+ evidence-based interventions. Commissioner dashboards allow real-time evaluation and usage tracking, providing data and insights for decision-making and planning. The use of the Safe Steps has been shown to reduce falls by 31%.

In March 2020, Safe Steps working with the Manchester healthy eco-system co-designed and deployed the world's first COVID prevention app for care homes. Saving over 2000 lives and used more than 1 million times and live in 1100 care homes.

Read more case studies







One of our global diagnostics manufacturing facilities has been based in Manchester for over 20 years. We have invested to grow this facility, taking advantage of the readily available talent pool and a wealth of world class research and innovation hubs situated in the region

Adrian Smith General Manager UK

Hologic

Hologic is an innovation driven medical technology company and a global champion of women's health. We provide diagnostic, detection and surgical solutions that respond to an increasingly complex and demanding global healthcare environment and have over 30 years' experiences in population screening and testing.

The company has sites across the world including in Manchester, which is the location of its International (ex-US) headquarters. This site includes tech transfer and manufacturing as well as being the site for our Financial Centre of Excellence for EMEA, LATAM and APAC.

In 2019, we embarked on a on a multi-million pound investment in our Manchester facility resulting in its rapid expansion, significantly increasing its production capacity and strengthening the UK's diagnostic infrastructure.

This investment was accelerated in 2020 as a response to COVID-19. The facility now has eight times its original manufacturing capacity with 24 hour operation and global distribution. This project was completed in under 12 months thanks to a strong local infrastructure, national and regional government facilitation and a readily available highly talented local workforce.

Our location in Manchester enables us to collaborate with UK universities and the NHS for efficient research and development and post-market partnerships.

Read more case studies

APIS Assay Technologies Kinomica SilVR Adventures Safe Steps





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The Department for International Trade (DIT) and local partners are here to support you in navigating the opportunities across the UK – to find the right fit for your business.

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For investors interested in considering high value options further – we provide a bespoke service tailored to your needs from investment inception, right through to aftercare support.

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T: +44(0) 207 000 9012

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Department for International Trade

Department for International Trade

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