



nhsa

Northern Health Science Alliance

A Health Partnership for Northern England



רשות החדשנות

Israel Innovation

Authority

NHSA Health-Tech Programme Call for Proposals

NHSA Health-Tech Programme Call for Proposals

The Israel Innovation Authority (IIA) and the Northern Health Science Alliance (The NHSA) invite interested Israeli companies to submit applications to pilot and/or co-develop healthcare-related technology solutions with NHSA members.

The NHSA and the IIA are seeking to advance healthcare by helping Israeli companies get the evidence and assistance they need to fine-tune their development and to enter and be successful in the British healthcare market.

NHSA members would serve as a real-world living laboratory for the Israeli companies to test and improve an existing process, service, or product; or to apply a new process to health care for the first time. In addition, NHSA members can provide consultancy advice to support UK market entry, including the legal and regulatory environment, evidence generation, business case development and assistance in commercialisation.

The goal of this collaboration is to accelerate the availability of medical innovations to the public, introduce Israeli healthcare technology to Europe, and advance the development and deployment of discoveries for the benefit of patients everywhere.

The IIA provides resources to aid technology advancement for Israeli companies. Together with the NHSA, provides expertise and excellence in clinical care, clinical studies, and R&D activities.



About the NHSA

The NHSA is a health and life sciences partnership between the leading NHS trusts, universities and Academic Health Science Networks in northern England. The NHSA was established in 2011 with a mandate from our member organisations to act, and add value, across research and innovation in the North.

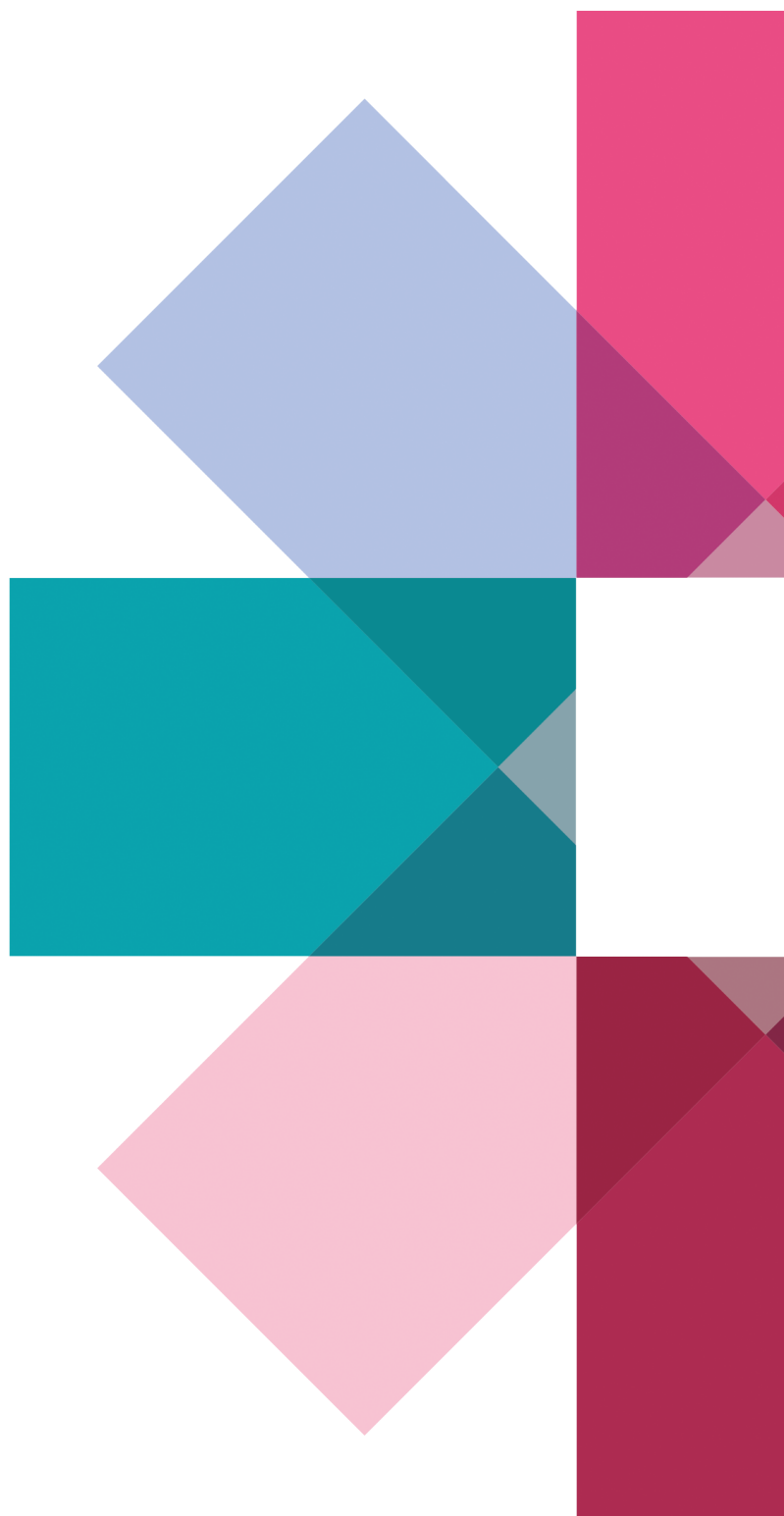
We work together with our members, industry and Government to mobilise the North's assets for the benefit of the people and the economy. We do this by brokering research collaborations, building expert networks, attracting investment, and providing a unified voice for the region's health research system.

The NHSA partnership is made up of 24 members: 12 NHS trusts, including two specialist Mental Health Trusts, 12 world leading universities and four Academic Health Science Networks (AHSNs). Collectively they serve a population of 16 million people. Our 12 NHS Trusts employ 150,000 staff and turn over £6 Billion annually. Our Universities train 130,000 health and life science graduates, bringing more than £1.25 billion of research income and the AHSNs work with over 1,000 companies to achieve market access in the UK.

Each NHSA member Hospital Trust participating in this call has described its offer and specialist health themes over the next pages. When submitting an expression of interest, please indicate which organisation you feel is the best fit for your company, however, all Expressions of interest will be reviewed by a multi-disciplinary panel drawn from across our member organisations to ensure the best opportunity for matching partners, and where beneficial, identify opportunities to work with multiple organisations to provide access facilities, expertise or multi-site trials.

The NHSA Academic Health Science Network (AHSN) Members exist to support the uptake of innovative products and services into the NHS. They offer a range of support services from providing an introduction to the NHS as a market and the funding landscape, through to in-depth business model and case development. Lead NHS Trusts will broker introductions and access to AHSN as relevant during the project planning phase.

Website: <https://www.thenhsa.co.uk/>



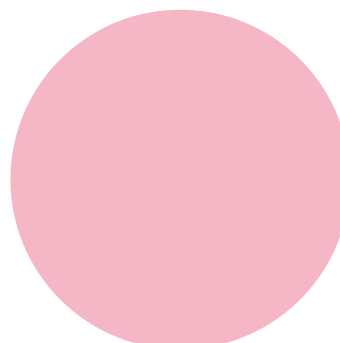
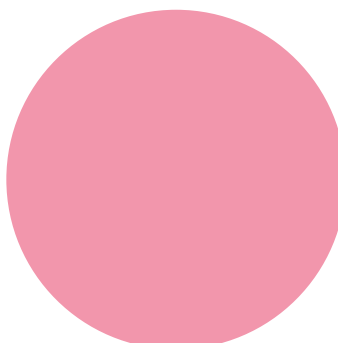
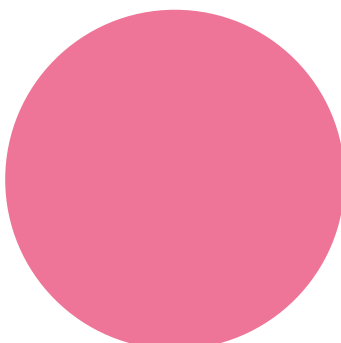
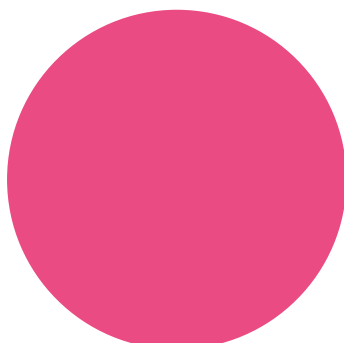
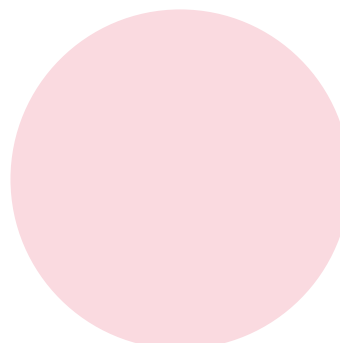
NHSA Member Interest and Specialisms

NHSA Member details are provided throughout this document. Below is a table of providing a keyword summary of interests for each member.

Member	Keyword Summary
Hull University Teaching Hospitals NHS Trust	Virtual Wards; Remote monitoring; medical devices; communications platforms; Mobile healthcare technology; wearables; Rehab support; Virtual Reality; VR; Radiology; Artificial Intelligence; A.I.; Robotics; Natural Language Processing; Machine Vision; Simulation; 3D Printing; Voice Recognition; Referral Management; Net Zero
Leeds Teaching Hospitals NHS Trust	Oncology; Haematology; Cardiovascular; Diabetes; Musculoskeletal; Surgery; Ophthalmology; Dental; Emergency Medicine; Maternity; Clinical Genetics; Laboratory testing; blood tests; microbiology tests; Children's Health; Neurosciences; A.I.; Artificial intelligence; digital health; medical devices; healthtech; advanced therapies; regenerative medicine; cell and gene therapies; diagnostics
Liverpool University Hospitals NHS Foundation Trust	Medical Oncology; Tumour Immunology; Pathology; Speech and Language Therapy; Otolaryngology; Head and Neck Surgery; Pre-malignancy; Oropharynx cancer; Human papillomavirus related oropharynx cancer; Oral cavity cancer; Function-sparing Surgery; Transoral surgery; Tumour Immunology; Immunotherapy; Speech and Language Therapy; Whole Genome Sequencing; Transcriptomics; Proteomics; Metabolomics; Multiplex IHC; RNA ISH; AI; ML; Artificial Intelligence; Machine Learning; Radiology; Digital pathology; Surgical technology; labelled nanoparticles; tumour / tumour margin detection; robotic technology to aid transoral surgery; AI and DL systems for ophthalmic images; Oculogenomics; Oculomics; Early detection and monitoring of ocular and systemic diseases;
Manchester University NHS Foundation Trust	Early detection of Cancer; Early intervention in cancer; Early Diagnosis and Pathway Optimisation; Technologies to free up staff time; Digital Health; Technologies to allow patients to take charge of their own health; Remote Monitoring; At Home monitoring; Digital Literacy; Digital Exclusion; Pathology; Radiology; Cancer; Oncology; Rapid Point of Care Diagnostics; Emergency Medicine; Acute surgery; acute cardiovascular; acute paediatrics; acute infection; antimicrobial resistance; antibiotic prescribing; genomics; pharmacogenetics; rare diseases; integrative diagnostics
Newcastle Upon Tyne Hospitals NHS Foundation Trust	In-Vitro Diagnostics; IVD; Advanced Therapeutics; Malignancy; Liver disease; Neuromuscular disease; Quality of life improvement; ageing; long term conditions; Rare diseases; Robotics for Surgery; Genomics; Mitochondrial genomics; reducing inequalities
Rotherham Doncaster and South Humber NHS Trust	Psychological therapies; Workforce wellbeing burnout; Epigenetics; Biomarkers; Decision support systems; Medical Devices; Medicines used in Mental Health; Nutrition; Nutrition and Behaviour; Data; Mental Health; Wellbeing; Burnout;
Sheffield Teaching Hospitals NHS Trust	Healthcare Technology; Medical devices; Sport research; Increasing healthy lifespan; Healthcare service design; Neuroscience; Spinal Injuries; Dementia; Parkinsons disease; motor neurone disease; stroke; multiple sclerosis; Long term conditions; Neurological conditions; renal; diabetes; Cancer; Gene Therapies; Precision medicine; diagnostics; Medical Imaging;

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Hull University Teaching Hospitals NHS Trust

Background

HUTH is situated in the geographical area of Kingston upon Hull and the East Riding of Yorkshire. Trust employs 8,356 staff, have an annual turnover of £794m (2021/22) and operate from two main sites - Hull Royal Infirmary and Castle Hill Hospital – whilst delivering a number of outpatient services from locations across the local health economy area.

Secondary care service portfolio is comprehensive, covering the major medical and surgical specialties, routine and specialist diagnostic services and other clinical support services. These services are provided primarily to a catchment population of approximately 600,000 in the Hull and East Riding of Yorkshire area.

Trust provides specialist and tertiary services to a catchment population of between 1.05 million and 1.25 million extending from Scarborough in North Yorkshire to Grimsby and Scunthorpe in North East and North Lincolnshire respectively. The only major services not provided locally are transplant surgery, major burns and some specialist paediatric services.

HUTH is designated as a Cancer Centre, Cardiac Centre, Vascular Centre and a Major Trauma Centre and is a university teaching hospital and a partner in the Hull York Medical School.

Challenges for the health care delivery in the region includes the socio economic profile and the wide geography along with the inequalities to access care across the region.

Hull is a geographically compact city of circa 458,000 people (2019). The health of people in Hull is generally worse than the England average, with life expectancy for both men and women being lower than the England average. 28% (14,430) of children in Hull live in low income families and the health and wellbeing of children is worse than the England average. The East Riding of Yorkshire is a predominantly rural area, populated by circa 340,000 people (2019). The geography of the East Riding makes it difficult for some people to access services.

Health Themes

Health themes of interest to Hull University Teaching Hospitals NHS Trust: HUTH Research and Innovation Strategy seeks the creation of a well-led 'research active and aware' workforce enabling high quality care for every patient through research opportunities supported by innovations across all the clinical areas. Trust is keen to collate ideas from the teams and develop new ways of working, guided by clinical input and is interested in pursuing external industry collaboration to support the development of pathways, where appropriate.

Some of the key areas of interest for the Trust where work in on-going is as below:

- Virtual ward models to enable remote management of patients, supported by technology such as remote monitoring apps, medical devices and platforms to communicate.
- Mobile healthcare technology solutions and applications including innovative medical devices (wearables)

- Rehab support Develop innovative solutions to support rehab enabling earlier discharge of patients and remote models of care. This would include wide spectrum of solutions ranging from virtual reality platforms for brain injury rehab to physical exercise apps to support from the pre-operative stage for elective pathways.
- Clinical Radiology Department performs around 500,000 examinations each year. Department is technologically driven and has pioneered AI for stroke diagnosis and treatment (Rapid AI) in routine clinical practice. Key areas of interest for further development in AI would be around:

- Robotics
- Natural language processing
- Machine vision

- Transforming care through Simulation – The Hull Institute of Learning and Simulation, located within HUTH campus excels in providing clinical skills and simulation training for health care professionals across the region & nationally. Interested in developing innovative solutions to support training & care delivery including highly specialized 3D anatomical printing and voice recognition packages in clinical settings.
- Referral management – Developing decision support tools for closer working with Primary Care physician for enabling appropriate referrals.
- Net Zero - The Trust's plan Zero30, is to become net zero by 2030 and new solutions developed would be aligned with the sustainable strategy of the Trust.

Opportunities and support

HUTH can provide in-kind services, expertise, and/or use of facilities including:

- Usage of unique facilities for beta-sites operations;
- Access to real-field-conditions for the tested innovation;
- Usage of internal services, expertise, knowledge, or equipment;
- Access to unique data, data-sets, engines, devices, skills in line with the data sharing and IG compliance
- Possibility to recruit patients for research projects;
- Experts' and consultants' time to guide, co-develop and, identify the parameters of the product/technology for testing or potential use cases;
- Working with national bodies to support the regulatory and legal guidance to ensure full compliance;
- Assistance in co-commercializing the product where appropriate;

Website: <https://www.hey.nhs.uk/>



Leeds Teaching Hospitals NHS Trust

Background

Leeds Teaching Hospitals NHS Trust is one of the largest NHS Trusts in the UK, with an annual budget of over £1.3bn and >18,000 staff. It serves a population of more than 5m people from a wide range of different ethnic and social backgrounds across Leeds and the wider North of England, sees more than 1.2m patients annually and is a world-renowned centre for highly specialist clinical services and research. It is consistently one of the top performing hospitals for delivering clinical research, recruiting over 20,000 patients into research each year.

A major driver for innovation at the Trust is the construction of 2 new hospitals - one adult hospital and a brand new Children's hospital which are due to open in 2026/7.

Health Themes

We are interested in health innovation across multiple different clinical areas including (but not limited to):

- Oncology
- Haematology
- Cardiovascular
- Diabetes
- Musculoskeletal
- Surgery
- Ophthalmology
- Dental
- Emergency Medicine
- Maternity
- Clinical Genetics
- Laboratory testing (blood tests, microbiology tests)
- Children's Health

- Neurosciences

From a technology perspective, we are interested in

- Artificial Intelligence
- Digital
- Medical Devices
- Advanced Therapies
- Diagnostics

Opportunities and Support

Leeds can offer:

- Hot-desking withing the hospital for partner businesses as part of our Innovation Community
- Access to datasets from clinical care (de-identified) – including radiology and digital pathology images (largest digital pathology dataset from routine clinical care that can be linked to longitudinal health records in the world)
- Access to blood and other samples for development of diagnostic assays
- Clinical trial delivery (patient recruitment, project management etc) and access to specialist facilities for first in human trials or highly complex clinical trials (e.g. ATIMP's)
- Access to clinical staff to support, guide and co-develop technologies
- Support for carrying out real-world evaluations of innovations
- Support for connecting to other partners who can also support business growth and commercialisation (e.g. Regulatory support)

Website: <https://www.leedsth.nhs.uk/>



Liverpool University Hospital NHS Foundation Trust

Background

Recently formed by the merger of the Royal Liverpool and Boardgreen NHS Trust and Aintree University Hospitals NHS Foundation Trust, Liverpool University Hospital NHS Foundation Trust (LUHFT) is the 11th largest NHS Trust in the UK. It is the largest provider of adult acute and specialist healthcare in the city of Liverpool and receives secondary, tertiary and quaternary referrals for specialist treatment from the populations of Liverpool (~950,000) and Cheshire and Merseyside (~2.5 million) as well as North Wales and further afield.

LUHFT is a high-volume research active NHS organisation with aspirations to grow its research and innovation (R&I) profile to become a national leader. Central to this is the inclusion of R&I as one of the four pillars of its corporate strategy. Amongst a wide-ranging R&I portfolio, LUHFT boasts two centres of translational research excellence which we believe are ideally suited to this call:

- Liverpool Head and Neck Centre
- Clinical Eye Research Centre

Liverpool Head and Neck Centre (LHNC): (<https://livheadandneck.co.uk/>) Currently comprising >2000 clinicians, clinical academic and scientists, LHNC is the largest centre for research and treatment of patients with diseases of the head and neck in the UK. In excess of 1000 patient per annum are seen with a new diagnosis of head and neck cancer.

LHNC is a centre of research excellence, launched in 2018 following a formal collaboration between three local NHS Trusts; LUHFT (The host NHS Organisation), Clatterbridge Cancer Centre (CCC), The Walton Centre and the University of Liverpool. LUHFT has two stated aims.

1. Enhanced quality and safety of patient care driven by a world-leading translational research programme
2. To secure programmatic and infrastructural funding in order for LHNC to become a self-funding entity.

In addition to two existing Professors and one Reader in Head and Neck Surgery, major funding has been provided by the University of Liverpool and NHS partners to facilitate the appointment, to LHNC, of Professors in Medical Oncology, Tumour Immunology, Pathology and Speech and Language Therapy as well as a Senior Lecturer in Otolaryngology / Head and Neck Surgery, ensuring academic expertise at all points of the patient pathway. This academic presence is not replicated in any other head and neck centre in the UK.

LUHFT has signed Memoranda of Understanding with La Jolla Institute of Allergy and Immunology and the All India Institute of Medical Science, New Delhi, in order to grow its global influence. In addition, LUHFT instigated, proposed and now leads, under the auspice of the Northern Health Science Alliance, the Northern Head and Neck Alliance. This Alliance comprises a consortium of Head and Neck Centres based in the North of England who have the collective aim to collaboratively enhance the profile of head and neck cancer research in the north of England.

Since 2007, >£37M research funding (£12M in the last 2 years) has been

secured by members of LHNC from funding bodies including the NIH, CR-UK, MRC, NIHR, Wellcome and RCSEng.

Over the same time period >650 peer-reviewed publications have been published including in Nature, Cell, Nature Immunology, Molecular Cell, PNAS, Journal of Cell Biology, Blood, Cancer Research, Clinical Cancer Research, BMJ & Lancet Oncology. (>60 in 2021/22)

Our research programme is heavily dependent on the prospective tissue we collect from patients undergoing surgery. All patients are screened for inclusion into our wide portfolio of clinical trials which range from first-in-man, window-of-opportunity studies, to international phase 3 clinical trials. In collaboration with a local industry partner we have developed a bespoke clinical research database into which patient data can be entered contemporaneously and linked to life-course and research derived omics data.

Members of LHNC have specific academic expertise in the following areas:

- Pre-malignancy
- Oropharynx cancer, especially Human papillomavirus related oropharynx cancer
- Oral cavity cancer
- Function-sparing, especially transoral, surgical approaches which we have pioneered in the UK
- Tumour Immunology and Immunotherapy
- Speech and Language Therapy

We would welcome approaches from companies who may have technologies which would enhance our research capabilities in areas of existing research strengths. Technologies which might be attractive (but not exclusively so) include

- Whole Genome Sequencing
- Transcriptomics
- Proteomics
- Metabolomics
- Multiplex IHC
- RNA ISH
- AI/Machine Learning, particularly as applied to radiology and digital pathology
- Surgical technology e.g. labelled nanoparticles for tumour / tumour margin detection or robotic technology to aid transoral surgery

St Paul's Eye Unit Clinical Eye Research Centre (CERC)

St. Paul's Eye Unit provides secondary and national tertiary referral services for all adult ophthalmic disorders. There are 30 substantive consultants including five clinical academics at senior lecturers and Professorial level.

The Unit provides state of the art diagnostic, imaging and treatment facilities for all conditions and has an international reputation for managing numerous complex ophthalmic conditions including ocular oncology, anterior segment diseases and medical and surgical retinal disorders.

Annually St. Paul's Eye Unit undertakes more than 150,000 outpatient consultations, more than 15,000 emergency attendances and more than 8,000 operations. This workload is approximately one quarter to one third of the entire activity of the Trust.

The Unit uses a dedicated ophthalmic EPR (Medisoft) which integrates with imaging systems through Heyex 2 platform.

Approx 50,000 ophthalmic images processed per annum (OCT, OCTangiography, Fluorescein and Indocyanine green angiography, widefield colour imaging, corneal topography) with EPR medical records associated.

The Clinical Eye Research Centre (CERC) is a dedicated research facility established in 2004 and performing both commercial (Phase I, II, III and IV) global clinical trials and non commercially NIHR supported trials. At any one period >25 clinical trials and being undertaken range of consultant principal investigators. As a high recruitment and retention clinical trial centre we have helped support global trials with 4 Lancet papers in past 4 years and >50 high quality research papers in the leading ophthalmic journals in past 2 years (Ophthalmology, BJO, AJO, IOVS, Graefes, Eye etc).

In addition, to CERC we have a dedicated reading and grading centre for ophthalmic images involved as clinical reading centre for several global trials within a network system with Moorfields Eye Hospital and Belfast University – The Liverpool Ophthalmic Reading Centre (<https://www.networkcuk.com/Home/Liverpool>).

In ophthalmology, Artificial intelligence (AI) and Deep Learning (DL) has been applied to fundus photographs, optical coherence tomography and

visual fields, achieving robust classification performance in the detection of diabetic retinopathy and retinopathy of prematurity, the glaucoma-like disc, macular oedema and age-related macular degeneration. In addition, it is being used in the newly developed area of oculo-genomics to identify systemic conditions including dementia, parkinsonism and demyelinating diseases.

At present we are involved in several AI related imaging trials :

- OCT and OCTa multicentre trial to identify anatomical biomarkers for Age related macular degeneration (Prof Sobha Sivaprasad at Moorfields and Prof Ian Pearce here at CERC)
- OCT and OCTa University of Liverpool sponsored trial looking for biomarkers for diabetic macular ischemia (Prof Simon Harding, Miss Savita Madhusudan and Professor Yalin Zheng)
- Widefield imaging and OCT to identify ocular biomarkers of choroidal naevi/melanoma progression (Prof Heinrich Heimann here at CERC)
- Close collaboration with Professor Anat Lowenstein, Head of Ophthalmology, Tel Aviv Sourasky Medical Center, Tel-Aviv Israel

The CERC are already involved in several AI/Machine learning trials. We would welcome approaches from companies who may have technologies which would enhance our research capabilities in areas of existing research strengths. Technologies which might be attractive (but not exclusively so) include:

- AI and DL systems for ophthalmic images
- Oculogenomics
- Oculomics
- Early detection and monitoring of ocular and systemic diseases

Website: <https://www.liverpoolft.nhs.uk/>



Manchester University NHS Foundation Trust

Background

Manchester University NHS Foundation Trust (MFT) is one of the largest acute Trusts in the UK, employing over 20,000 staff. Comprising ten hospitals over six separate sites, MFT provides a wide range of services from comprehensive local general hospital care through to highly specialised regional and national services.

With an annual turnover of more than £1.6b, MFT has the largest comprehensive clinical academic campus in Europe, and is the main provider of hospital care to approximately 776,000 people in Manchester and Trafford, and the single biggest provider of specialised services in the North West of England.

It is also the lead provider for a significant number of services including Breast Care, Vascular, Cardiac, Respiratory, Urology Cancer, Paediatrics, Women's Services, Ophthalmology and Genomic Medicine.

Many of MFT's secondary and tertiary services serve the 2.8 million residents of Greater Manchester (GM) and it is the sole provider of several

tertiary services in the GM Health Economy.










MFT's vision is to improve the health and quality of life of our diverse population by building an organisation that:

- Excels in quality, safety, patient experience, research, innovation and teaching
- Attracts, develops and retains great people
- Is recognised internationally as a leading healthcare provider

Research and Innovation (R&I)

MFT is at the cutting-edge of healthcare research, innovation and life-sciences in the UK. Through clinical and academic skills, expertise and experience, coupled with commercial funding and world-class facilities and R&I infrastructure across Greater Manchester, it is improving the health and quality of life for a diverse population by developing and delivering new treatments, innovations, products and services.

With a cost-recovery annual turnover of more than £58 million, and more than 800 active studies, research at MFT regularly recruit more than

<p>Manchester Royal Infirmary</p> <p><i>Secondary and tertiary services</i></p> 	<p>Manchester Royal Eye Hospital</p> <p><i>Specialist eye hospital</i></p> 	<p>Saint Mary's Hospital</p> <p><i>Specialist women's hospital and genomics</i></p> 	<p>Royal Manchester Children's Hospital</p> <p><i>Specialist Children's hospital</i></p> 	<p>University Dental Hospital of Manchester</p> <p><i>Specialist Dental hospital</i></p> 
<p>Wythenshawe Hospital</p> <p><i>Secondary and tertiary services</i></p> 	<p>Withington Community Hospital</p> <p><i>Diagnostics, day-case and community</i></p> 	<p>Trafford General Hospital</p> <p><i>Secondary care services</i></p> 	<p>Altrincham Hospital</p> <p><i>Diagnostics and outpatient services</i></p> 	<p>North Manchester General Hospital</p> <p><i>Secondary care services</i></p> <p>Joined April 2021</p>

Depicts Oxford Road site

20,000 participants every year. This work is supported by more than 600 staff, including an integrated Research Office, Clinical and Non-Clinical Research Delivery Teams, and Innovation Team, and colleagues from MFT-hosted organisations, one of the largest National Institute for Health Research (NIHR) portfolios in the country, including the NIHR Manchester Biomedical Research Centre (BRC) and NIHR Manchester Clinical Research Facility (CRF). MFT also host Health Innovation Manchester (HiM), Greater Manchester's academic health science and innovation system which includes the Manchester Academic Health Science Centre (MAHSC). MFT's main academic partner is The University of Manchester and many of its clinical academics are recognised as leaders in their field.

MFT's Oxford Road Campus is located at the heart of the Oxford Road Corridor Enterprise Zone and is home to the Citylabs development, a world-class hub for health innovation and precision medicine, and the only development of its kind in the UK. Citylabs brings together global investment and cutting-edge clinical innovation into the heart of Manchester for patient benefit and mutual economic growth. Health themes

MFT are looking for companies who are interested in collaboration opportunities with MFT to consult, generate clinical evidence, undertake clinical trials, co-develop and bring innovative technologies.

Challenge areas:

- Earlier detection/ intervention for cancer patients
- Data driven approaches to early diagnosis and pathway optimisation
- Innovative solutions to free up NHS resources and staff time:
- Digital solutions to allow patients to take charge of their own health, monitor patients with chronic conditions from home, addressing digital literacy and digital exclusion.
 - Specifically in services which are overstretched, pathology, radiology, cancer. Solutions which can bypass these services or can translate results to be read by non-specialist clinicians.

Emerging areas for the Diagnostics and Technology Accelerator (DiTA):

DiTA is focused on IVDs and MedTech in all disciplines

Specific areas of interest:

- Rapid POC and near patient testing for acute care settings.
- Emergency medicine, acute surgery, acute cardiovascular, acute paediatrics

- Innovations to address acute infection, antimicrobial resistance and promote good antibiotic prescribing
- Genomics – innovative solutions which address a need for rapid identification of genetic variation e.g. pharmacogenetics, rare diseases.
- Integrative diagnostics – the convergence of imaging, pathology, and laboratory tests with advanced informatics to revolutionise diagnosis and therapeutic management and free up NHS resources

Opportunities and support

Our offer to innovation partners:

Work with the largest NHS trust in UK – spanning all clinical specialities and services, including the community setting, through the Manchester and Trafford Local Care Organisations (LCOs)

Track record of success – we have consistently delivered a range of projects and have been successful in funding awards, including from Government and industry contracts.

Professional support – our experienced Innovation Team has specialist expertise and extensive knowledge of Intellectual Property (IP), innovation, commercial engagement and partnership working – current strategic programmes include the MFT Diagnostics and Technology Accelerator (DiTA) and a Clinical Data Science Unit (CDSU).

Rich data assets – our patient population of 750,000 people across Greater Manchester and forthcoming integrated Electronic Patient Record (EPR) system provide opportunities to conduct approved, ethical research and develop better ways to improve patient care.

Our Diagnostics and Technology Accelerator (DiTA) offers the opportunity to:

- Co-develop new medical devices alongside industry, academics, NHS clinicians, patients, and the public
- Establish partnerships between industry, academics, clinicians, and the wider ecosystem, to progress innovations that improve patient care and efficiency within the NHS
- Collaborate with innovators to achieve translation and demonstrate utility of these new medical devices.

Website: <https://mft.nhs.uk/>



Newcastle upon Tyne Hospitals NHS Foundation Trust

Background

Newcastle upon Tyne Hospitals NHS Foundation Trust (NuTH) is one of the largest acute NHS Trusts in the UK employing over 18,000 staff. It serves the population of Newcastle upon Tyne, the North East of England and North Cumbria c. 3million people, and provides specialised healthcare services at a national and international level. NuTH has strong collaborative links with surrounding NHS organisations, Higher Education Institutions, including Newcastle University, national NHS and academic partners. Our focus on excellence in healthcare is encapsulated in our vision:

Achieving local excellence and global reach through compassionate and innovative healthcare, education and research.

We provide one of the broadest ranges of specialised healthcare services in the UK including all diagnostic modalities, all medical and surgical specialties, solid organ and HSCT transplant services, neonatal, paediatric and adult intensive care and major trauma provision for all ages across our region.

We are one of a small number of NHS organisations to have been rated Outstanding by the Care Quality Commission on two occasions. We have a strong tradition of translational research excellence working in collaboration with nationally and regionally funded research infrastructures to deliver one of the highest volumes of recruitment to clinical trials in the NHS

Health themes

We have particular interest in:

- Discovery, development, evaluation and evidence for adoption generation for in vitro diagnostics
- Discovery and development of advanced therapeutics with particular emphasis on therapeutics in malignancy, liver disease and neuromuscular disease
- Diagnosis and management to improve quality of life in ageing and long term conditions
- Diagnosis and management of rare disease including advanced clinical trial design for rare and ultra rare disease
- Application of robotics to surgical intervention
- Development of genomic diagnostics and genomic medicine including mitochondrial genomics
- Reducing healthcare inequality through application of novel clinical pathways

Opportunities and support

As one of the largest NHS organisations in the UK we have the infrastructure, highly skilled staff and patient base to support innovation at all stages of diagnostic, medtech and therapeutic discovery and development.

We have an outstanding ecosystem in the city which can support collaboration with industrial partners including

- Newcastle Biomedical Research Centre,
- Newcastle Academic Health Science Centre (Newcastle Health Innovation Partners),
- North East Innovation Lab,
- Diagnostics and Therapeutics North East, Newcastle in Vitro Diagnostic Co-operative (NIHR MIC),
- Newcastle Institute of Transplantation,
- Sir Bobby Robson Clinical Trials Unit,
- John Walton Muscular Dystrophy Research Centre,
- Wellcome Centre for Mitochondrial Research,
- The North East North Cumbria Academic Health Science Network
- Newcastle University,

and we are a key part of a vibrant regional Health and Life Sciences Cluster. These components, high quality staff, a large patient cohort with high quality clinical and pathological characterisation and excellent infrastructure across a highly developed NHS/academic partnership provide the ideal opportunity for collaborative working for patient benefit.

Website: <https://www.newcastle-hospitals.nhs.uk/>



Rotherham Doncaster and South Humber NHS Trust

Background

Rotherham Doncaster and South Humber NHS Trust is a mental health and community services organisation in the North of England. We employ circa 4,000 staff, and provide a diverse range of services for adults and children across three separate communities with around 200,000 patients.

The Grounded Research team is the Research and Innovation department of the Trust, and alongside the NHTA we are leaders of the mental health collaborative across the North of England - this includes all the NHS mental health Trusts, academic partners, and industry partners.

We have a strong track record in sponsoring, managing and delivering research and innovation. We have expertise in delivering large scale trials across the spectrum of mental health services, and a specific track record in psychological therapies, workforce wellbeing and burnout and biomarkers.

We run a dedicated community research facility, and in conjunction with the University of Sheffield have a state of the art psychotherapy and physiology lab, enabling EMG (Electromyography), ECG (electrocardiogram) and EDA (Electrodermal Activity) measurements alongside psychotherapy assessments.

Health themes

The following themes are of particular interest to RDASH:

- Psychological therapies
- Workforce wellbeing burnout
- Epigenetics
- Biomarkers
- Decision support systems
- Medical Devices
- Medicines used in Mental Health
- Nutrition and its influence on behaviour
- Insights from data to support research and inform clinical care

Opportunities and support

We offer world class clinical academics, experience of working with industry partners and a strong track record in research governance and assurance.

We have the ability to sponsor, host and deliver large scale trials with connectedness across the North of England, offering access to a total population of 17 million people.

We work at the interface of mental health and physical health, with strong collaborative relationships and regional, national and international experience.

Website: <https://www.rdash.nhs.uk/>



Sheffield Teaching Hospitals NHS Trust

Background

Sheffield is a thriving city in the heart of Great Britain with a track record for world class research and innovation in the field of healthcare and technologies. Sheffield Teaching Hospitals NHS Trust is one of the largest trusts in the country. The Trust manages 2 major adult hospitals as well as three specialist centres that cover dentistry, maternity and cancer, treating over 2 million patients annually with 18,000 staff.

An established partnership with two world class universities – Sheffield University and Sheffield Hallam University - form the foundation for successful collaborations with industry and other partners. With an established pedigree in healthcare technology, sport research and healthcare service design and flagship research Institutes for Neuroscience and Healthy Lifespan, we are a region that can help tackle global health challenges.

The health sector has over 4,000 employers in South Yorkshire and has established a reputation for excellence in the development of innovative healthcare technologies. The region is host to many world-leading healthcare technology companies including Braun, Swann Morton, Orchid and JRI Orthopaedics and the only Olympic Legacy Park in the world outside of a host city.

The region is the location for world leading clinical research and biomedical devices, and has several firms involved in diagnostic and interventional innovations (everything from surgical to artificial intelligence). The National Centre for Sport & Exercise Medicine is a globally leading transformation programme co-locating health and activity in bespoke community facilities, utilising the unique demographic of Sheffield as a living laboratory for research and innovation.

Sheffield Hallam University's Advanced Wellbeing Research Centre (AWRC) builds on this capability to undertake world-class research in physical activity. The AWRC also develops collaborative community, academic and industry partnerships to drive innovation and codesign products, interventions and services that transform the social, behavioural and environmental determinants of health. Future developments including the University of Sheffield Gene Therapy Innovation & Manufacturing Centre provide further opportunities. Digital technology is changing how education, engineering, and manufacturing operates.

The region has a lot to offer entrepreneurs, from Sheffield's Digital Coalition, dotSHF and Sheffield Digital, to Barnsley's Digital Media Centre. There is a growing value chain which is delivering specialist training to support growth in the sector and a thriving network of over 400 companies, incubators and organisations; all of which make up our digital media and technology ecosystem. Over 60% of the UK's educational technology capacity is in Sheffield, and we are the home of national and globally significant businesses like The Floop, Sumo Digital, Wandisco, Plusnet, and 3Squared.

Health themes

The following themes are of particular interest to Sheffield NHS Trust:

- Healthcare Technology and medical devices
- Sport research and increasing healthy lifespan

- Healthcare service design
- Neuroscience inc. Spinal Injuries, Dementia, parkinsons disease, motor neurone disease, stroke and multiple sclerosis
- Long term conditions inc. Neurological conditions, renal and diabetes
- Cancer treatments
- Gene Therapies
- Precision medicine – diagnostics and treatments
- Medical Imaging

Opportunities and Support

We have a long tradition of research excellence and innovation, pioneering advances in medicine and care through close collaboration with the city's leading universities, industry partners and our patients. We offer world class clinical academics, experience of working with industry partners and a strong track record of delivery. Across our facilities and partners we have access to multiple specialist centres that can meet the research, design and evaluation needs for any project, such as:

- Sheffield Institute for translational neuroscience
- Sheffield PET-MRI facility
- InSigneo - Europe's largest research institute dedicated entirely to the development, validation, and use of in silico medicine technologies
- Two specialist Clinical Research Facilities
- Sheffield Experimental Cancer Medicine Centre
- Sheffield Gene Therapy Innovation and Manufacturing Centre
- Advanced Manufacturing Research Centre (AMRC)
- Advanced Wellbeing Research Centre (AWRC)
- Olympic Legacy park

As well as National institute for health research (NIHR) institutes:

- Sheffield Biomedical research centre
- Devices for Dignity Medtech and In-vitro diagnostic Co-operative
- Clinical research network

Website: <https://www.sth.nhs.uk/>



Application Process

Phase 1

Deadline for Expression of Interest (EOI) form submissions: 14/11/2022
The Israel Innovation Authority will invite selected Israeli companies to phase 2.

Phase 2

By 20/02/2023 the Israel Innovation Authority will invite selected Israeli companies to phase 2.

Deadline for full submissions: 21/06/2023

Supported activities may include: piloting, testing (of different kinds; including in real-world conditions), validation, trials, performance verification, device iteration, product and interface customization, pre-pilot activities, R&D activities needed for the pilot, optimizing the clinical use of a given technology/product, identifying the parameters of the product/technology and potential use cases, optimizing user interfaces, etc.

What support do the IIA and NHSA offer?

Successful Israeli applicant companies will receive funding from the IIA and in-kind services from the NHSA.

The IIA can support R&D performing companies, registered and operating in Israel, with a grant of up to 50% of the approved Pilot Expenses Budget, according to its regulations and procedures.

When a project eventually results in sales of a product, service, or process, the financial support must be repaid in royalties to the Israel Innovation Authority according to its regulations. In general, royalties are paid at rates beginning at 3% of sales, depending on various criteria. Royalties are payable until 100% of the amount of the grant has been repaid with interest as provided in the applicable regulations. If the project does not result in sales, no repayment is required.

The NHSA will provide in-kind services, expertise, and/or use of facilities. Examples for such in-kind support can include:

- Usage of unique facilities for beta-sites operations;
- Access to real-field-conditions for the tested innovation;
- Usage of internal services, expertise, knowledge, or equipment;
- Access to unique data, data-sets, engines, devices, skills;
- Possibility to recruit patients, experimenters, tools, etc.;

Experts' and consultants' time to guide, co-develop and, identify the parameters of the product/technology for testing or potential use cases; Regulatory and legal guidance to ensure full compliance;

Assistance in co-commercializing the product; for example, through joint work with relevant local business partners (companies, investors, distributors, etc.) that are part of the NHSA network.

NHSA would fund its in-kind assistance for the project and make it accessible through an applicable agreement with the selected Israeli companies. If according to the arrangement the Israeli company needs to pay NHSA, this cost could not be funded by the IIA (unless no IP is shared, in which case up to 10% of the project budget could be used to

pay the NHSA member for its services).

An appropriate agreement between successful applicant companies and The NHSA member will need to be signed as one of the first milestones during the project initiation.

Process and Timeline

Program launch	September 2022
Webinar	Mid September 2022
Applicants submit Expression of Interest (EOI) form	14/11/2022
Israel Innovation Authority provides list of companies pre-screened companies to health centers for review	15/12/2022
Health centers review and select shortlisted companies, then IIA invite shortlisted applicants to submit a full application	20/02/2023
Shortlisted applicants submit a full online application to the IIA, and program outline and budget in English to health centers	21/06/2023

Contacts

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nhsa
Northern Health Science Alliance

A Health Partnership for Northern England



רשות החדשנות
Israel Innovation
Authority