



Discover  
Develop  
Deliver

A national centre of  
excellence expanding  
horizons in health and  
biosciences innovation.



**At Teesside University,  
our research in health and  
wellbeing addresses the  
medical challenges of the  
future, driving positive  
change in healthcare  
across regions.**



## INTRODUCTION

The National Horizons Centre (NHC) is a centre of excellence for health and biosciences innovation, supporting the full lifecycle from early diagnosis of diseases to the sustainable manufacture of life-saving treatments.

The centre supports the delivery of health and wellbeing research, innovation, and enterprise activity at Teesside University, working collaboratively with the health and biosciences sector to discover and provide innovative solutions to save lives and create more affordable treatments.

The NHC addresses key global challenges from climate change and emerging diseases to improving global sustainability and addressing healthcare inequality. As a designated national provider and trainer for the biosciences industry, the centre already plays a pivotal role in creating a pipeline of trained experts for local, national and global organisations.

Over the coming years, the centre will strengthen existing relationships and establish new collaborations to cement its reputation as a partner of choice.



### OUR VISION

We are advancing research and innovation in translational healthcare and biosciences working with our local and global partners to detect diseases earlier and deliver the medicines of tomorrow.

### OUR MISSION

In partnership with industry and academia, the NHC proactively identifies sector challenges, pioneers novel solutions, and drives impactful innovation to improve lives.

- > We **discover** innovative solutions for sector problems.
- > We **develop** industry-relevant training for the biosciences and healthcare sectors.
- > We **deliver** the workforce and innovations of tomorrow, today.



# OUR APPROACH: DISCOVER. DEVELOP. DELIVER.



The NHC works with industry to **discover** diseases earlier, **develop** novel solutions and **deliver** life-changing and sustainable innovations to improve patient outcomes

## OUR EXPERTISE

BIODISCOVERY



DIGITAL HEALTH



MEDICINE MANUFACTURING



SUSTAINABLE FUTURES



BIOECONOMY





**BIODISCOVERY**



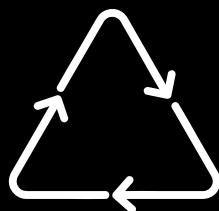
**DIGITAL HEALTH**



**MEDICINE  
MANUFACTURING**



**SUSTAINABLE  
FUTURES**



**BIOECONOMY**

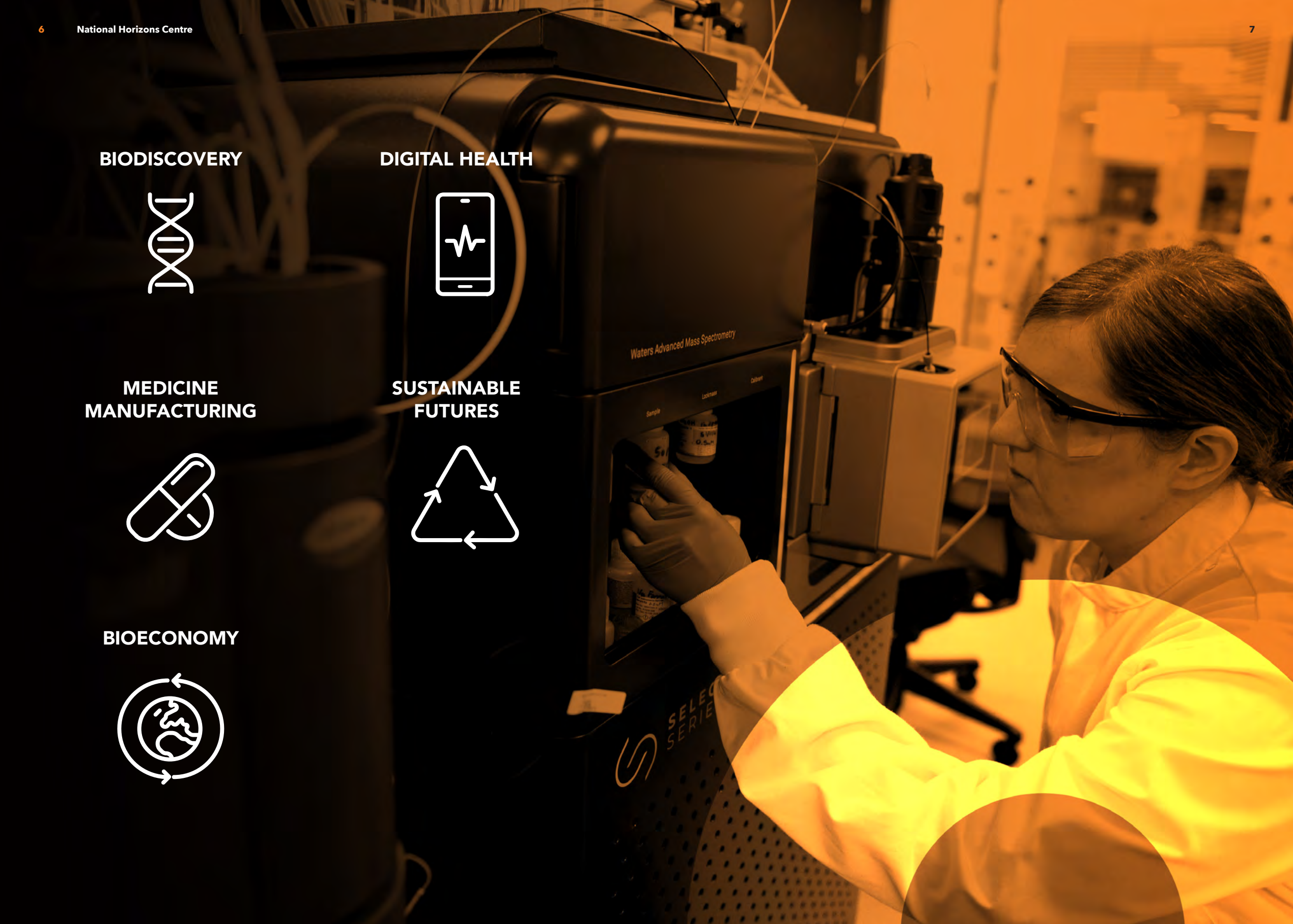


Waters Advanced Mass Spectrometry

Sample Lockwash Diluent



SELECT  
SERIES



# CASE STUDIES

Working collaboratively we have quickly established the NHC as an industry partner of choice to drive innovation and skills.



## BIODISCOVERY

Researchers at the NHC are using innovative approaches to understand acute and chronic diseases and translate discovery research to the clinic. Projects include the application of omics technologies, machine learning and AI to identify biomarkers in aggressive cancers to guide the design of the clinical trials.

Our genomic medicine research has secured a lead role in groundbreaking research into novel therapies for rare diseases like Neurofibromatosis Type 1 (NF1). This genetic disorder causes uncontrolled tumour growth in the nervous system. In collaboration with global experts and industrial partners, the NHC's work in gene therapy optimisation has been crucial in advancing research towards a potential cure for NF1. Pre-clinical research shows promising results for NF1 models paving the way towards potential future treatments.



## DIGITAL HEALTH

Academics at the NHC play a key role in the delivery of a digital health hub for the North East and North Cumbria (NENC). In partnership with the region's six universities and seven NHS trusts, the Northern Health Futures (NorthHFutures) hub is a world-leading healthcare technology research and innovation ecosystem that addresses health and social inequalities in NENC by supporting inclusive digital skills training and responsible health-tech design and development.

The hub is addressing unmet health needs in the region, including health and nutrition for children and young people; mental health and wellbeing; patient care; wider application of virtual and augmented reality in training and delivery of clinical care; and ageing well with long-term conditions.



## MEDICINE MANUFACTURING

The NHC is a national centre for skills training delivering online and in person courses to support the full pipeline of talent from schools through to industry leaders. We are also part of a UK network to deliver training and outreach materials and programmes that address skills demands in the life sciences sector.

The RESILIENCE Centre of Excellence for UK Medicines Manufacturing Skills is a consortium between University of Birmingham, Teesside University, University College London, Heriot-Watt University and Britest LTD. Funded by Innovate UK and the Office for Life Sciences, the consortium works with healthcare and pharmaceutical organisations to provide a single-entry point for training and career input including a pipeline of continuing professional development courses.



## SUSTAINABLE FUTURES

The NHC has worked in partnership with HexisLab since opening in 2019, testing new product ideas and bringing them to life using some of the best laboratory equipment available.

This important partnership enables the development of new biotechnologies and processes to produce sustainable ingredients that meet the growing demand for environmentally friendly alternatives. Collaboration between academia and industry is crucial for developing innovative solutions that positively impact society, businesses, and the environment.



## BIOECONOMY

The NHC works in partnership with MOMA Foods to optimise its oat milk product and explore the potential for new product lines. The collaborative projects are developing new methods of testing the quality of oat milk on site through the development of a new monitoring tool. The team also work with suppliers to optimise ingredients and production.

As a result of the successful partnership, oat milk has now overtaken porridge as MOMA's core product. The milk has also received several plaudits including a Great Taste Award and has ranked the highest for flavour compared to its competitors on Amazon.





Find out more about our projects and get in touch:



# DELIVERING SUCCESS

A model of continuous improvement will drive delivery of these priorities, enabling the centre to adapt to new and emerging technologies, pivot to national and global trends and drivers, and support the University to fulfil its mission of transforming lives and economies through impactful research, innovation and knowledge exchange.

We will monitor our success in this space across a range of performance indicators, including, but not limited to those below:



SECTOR POSITIONING	TRAINING DELIVERY	RESEARCH CITATIONS
INDUSTRY COLLABORATIONS		
STAFF SATISFACTION	INCOME	GLOBAL REACH

Contact us to find out more about the NHC and to work with us:

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