



Innovating by Collaborating

Forward Strategy 2017 – 2020



Who we are

N8 Research Partnership is a not-for-profit collaborative organisation, established and funded by the eight research intensive universities of the North of England.

The role of N8 Research Partnership is to:



World class capabilities of these institutions are brought together for powerful collaborations across the Northern Powerhouse region and beyond:



Our Strategy

Over the next 4 years, N8 will **pioneer collaboration, knowledge exchange and engagement activities** – to establish innovation communities that engage across business, public sector and society.

Helping Businesses Succeed

N8 has a strong track record of close business partnership to drive translational innovation, for example through the N8 Industry Innovation Forums.

These forums bring together business need with research capability to form new partnership projects. The core events have catalysed many new collaboration discussions, with follow-up programme management support ensuring these flourish into a deeper collaboration.

N8 is proposing to expand its model of working closely with SMEs and with multinational corporations to support their research challenges. N8 aspires to establish Innovation Communities that provide a programme of face-to-face, online and virtual collaboration initiatives, based within the North, but open to national and international businesses.

Access to Capital Facilities

Regional sharing of facilities can enable researchers and businesses to access high cost, high impact equipment, where it is not required physically close to researchers' labs and where use is not required daily by the researchers.

N8 High Performance Computing is the flagship shared research facility within N8. Operating in a truly collaborative way, this capability has led to more than 90 partnerships with industry. A substantial community of practice has grown around N8 HPC, lowering barriers to using the facility through the expertise of N8 researchers. Experts are available to guide new businesses through the complexities of programming and analysis.

N8 has also established a database of equipment and facilities that can be accessed across our member universities – enabling external businesses to identify breakthrough capabilities and existing technologies that can spark new partnerships with our universities.



World Class Research

Over the next 4 years, N8 will develop programmes of **world class interdisciplinary, collaborative, translational research** – to deliver real world impact, enabling the North of England to take a leading position in rebalancing research excellence.

Our Pipeline

N8 maintains a pipeline of research priorities such that at any given time there will be around 5 priority areas. N8 establishes **Research Themes** in areas where there is:

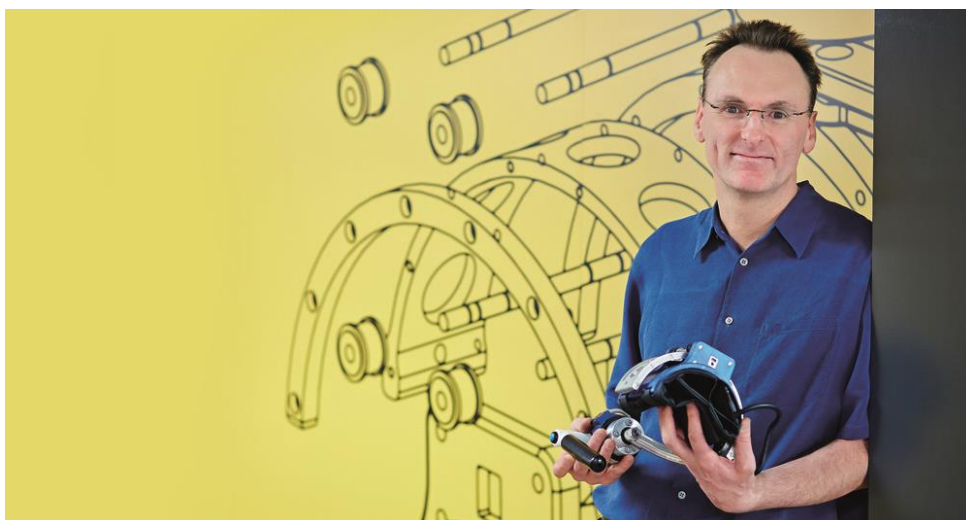
- Potential for growth to reach international or world class status and recognition within five years.
- Established strengths in multiple N8 institutions that demonstrate complementarity across research disciplines.
- A fit with identifiable external funding themes and opportunities.
- Sufficient pull from industry and other sectors to ensure involvement of a broad user base.

Themes are developing multiple inter-related projects, programmes, and activities to ensure research growth, and business or societal benefit through industry/business engagement involving Open Innovation, Community Engagement, Co-Production Learning, and Mini-conference meetings.

Engagement with business on Research Themes can be coordinated through a single route, delivering a simple route to partnering with the ‘power of eight’ universities.

N8 also establishes **Emerging Communities** in areas that are being identified for N8 to make major contributions to in the future.

These are areas that have the potential, through the development of a research community and knowledge exchange, to grow into a future Research Theme and are expected to identify a collaborative activity within 18 months. Currently these include Robotics and Autonomous Systems; Industrial Biotechnology for the Bioeconomy; and Targets for New medicines.



AgriFood Resilience

The population of our planet continues to grow: It is estimated that by 2050 the global population will be approaching 10bn people.

Demand for food, water and energy is rising: World Bank estimates that by 2030 cereal production needs to increase by 50% and meat production by 85%, outpacing current trends.

Obesity and malnutrition continue to blight populations: Research must address the dietary needs of consumers; obesity in parts of the world is becoming as serious as malnutrition in terms of the effects on health. Research into food preferences and practices, and their links to public health, is critical to developing sustainable nutrition.

N8 AgriFood Resilience Programme is a £16m investment from HEFCE and the N8 universities aimed at tackling these issues by working together, across disciplinary boundaries. In harnessing the collective and complementary research power of the N8 universities N8 AgriFood is able to offer an unparalleled research capability across the entire food value chain.

The N8 AgriFood programme is focussing on delivering research excellence through inter-disciplinary approaches to research problems, which are by nature, complex and not easily solved by classical approaches.

 N8 AgriFood Sustainable Food Production	 N8 AgriFood Resilient Supply Chains	 N8 AgriFood Improved Consumption and Health
Precision agriculture, soil regeneration, resilient and productive crops and livestock, novel diagnostics, predictive modelling and 'omics' to promote resilient, sustainable food production.	Adapting food supply systems to deliver increased resilience and nutrition while improving public health, reducing environmental impacts and sustaining economies.	Lowering the burden of food production and distribution on the natural environment through changes in behaviour, diet and other socio-economic factors.

Our strengths include world-class facilities include research farms, complementary research strengths, and the largest concentration of researchers engaged in AgriFood research in the UK. Currently we are adding to this through new inter-disciplinary appointments, and an outward-facing Knowledge Exchange network, to ensure that the N8 AgriFood programme sets a new standard for collaborative research.

N8 AgriFood priorities include:

- Developing a strong community of industry partners from across the supply chain.
- A “systems” approach to AgriFood that generates and evaluates solutions in commercially and environmentally relevant conditions.
- Focus on multi-disciplinary research and multi-party relationships.
- Build-on and deliver internationally relevant projects in countries and areas with significant need.

Key Contact



Prof Katherine Denby,
Academic Director

Urban and Community Transformation

The N8 Urban and Community Transformation theme is focused on research affecting cities, communities, our work, our culture and heritage and how our cities are governed and managed.

We are generating knowledge essential for an effective Northern Powerhouse - one which transforms Northern cities into interconnected, vibrant innovation hubs.

Policing Research

N8 Policing Research Partnership is working with all the police forces across the North, the College of Policing, and other major policing stakeholders to address the issues and challenges facing a modern police force.

N8 Policing Research Partnership is enabling policing partners to define and explore shared problems – then to draw on analytical expertise and data assets with leading academics from a range of disciplines, to generate solutions with national and international significance.



Urban Living

As the UK develops plans for leaving the European Union, and as devolution to city regions gathers pace, there is an urgent need to more rapidly unlock the potential of the 'Northern Powerhouse'. We must make the North a fantastic place to live, and to build a career.

N8 is proposing a new network of Urban Transformation Centres (UTCs) across the North of England that would act as research and knowledge exchange hubs, in partnership with the cities, public and private sector. These would address major challenges for Northern cities, such as:

- Successful City Governance in response to devolution
- Health and ageing in the city
- Better Housing for all (including connectivity to transport and jobs)
- Economic Inclusivity and the skills and aspiration gap

This will result in a world leading innovative initiative for urban economic transformation.

Other pilot projects that N8 is leading are helping us improve interactions with city partners in urban collaborative planning, and to engage more effectively with local communities. As an example, the N8 Urban & Community Transformation programme will partner with leading cultural institutions in the North to establish a programme to build Cultural Heritage as a key component of Northern Powerhouse urban transformation.

Emerging Communities

N8 continues to explore new and emerging areas to make major contributions in:

- **Industrial Biotechnology for the Bioeconomy** – combining the recognised biotechnology expertise of N8 academia to drive forward the regional and national bioeconomy in areas such as chemical feedstocks, high-value chemicals, biofuels, and biopharmaceuticals.
- **Targets for New Medicines** – a cross-institution initiative to bring disease and patient knowledge to bear with a coherent platform of evidence, to identify new disease intervention opportunities for medicines.
- **Robotics and Autonomous Systems** – expertise in basic and applied research into robotics and autonomous systems, focussing on areas such as medical, extreme environments and agri-tech.

These areas of N8 collaboration are at an early stage; however the recognition of these across N8 institutions as high potential areas for investment will provide the foundation for exciting project proposals from N8 in the coming years.



Northern Powerhouse

The research-intensive universities of the N8 are anchor institutions for the Northern economy. We are closely involved in advancing the strategy for the North's economy, working with a range of partners passionate about a vibrant Northern future.

Regional Partners



N8 is a founding member of the Government's Northern Powerhouse Partner programme, advancing the opportunities for skills and innovation.

The goals of N8 closely align with the goals of Local Enterprise Partnerships to deliver economic benefit, particularly through the development of innovation programmes and through the co-creation of Science and Innovation Audits.

N8 is working with Northern Health Science Alliance, BioNow and other Northern organisations to create a seamless eco-system in the Life Sciences from laboratory to clinic. N8 is working with partner organisations such as IBioIC to deliver research excellence in industrial biotechnology.

An International Perspective

N8 is an outwardly facing organisation and is exploring opportunities for collaborations with other similar regional university networks in Europe and beyond.

N8 also works closely with Chevening to promote opportunities for international students to study at our leading universities, including a pioneering programme for Chinese scholars.

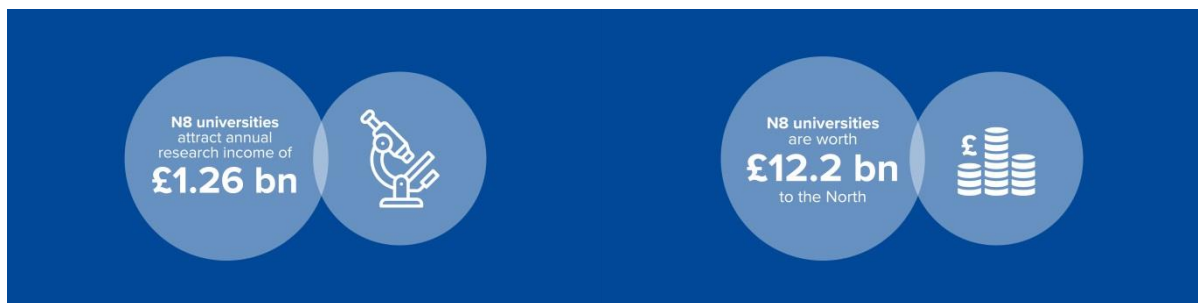




Driving Economic Growth

Anchor Institutions

As reported in The Power of 8: Knowledge, Innovation and Growth for the North, the eight N8 universities are outward facing, serving as an integral part of the fabric of their regional business communities. They support and deliver thousands of new collaborative research partnerships with Northern and national businesses. N8 university activities are of vital importance to future innovation led economic growth of the region.



N8 universities are closely identified with their host cities and play a vital role in supporting and regenerating the regional economy. Whereas other industries may relocate, and government regional policies and industrial strategies may change, the N8 universities remain anchors in their communities - providing a core of economic stability, employment and continuity even as other industries may grow or contract around them.

Innovation and Enterprise

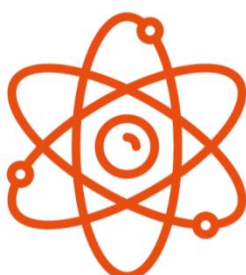
N8 universities convert their world-class research expertise and breakthrough technologies into new and growing businesses. This pipeline of new companies is vital if we want to grow a Northern economy based on innovation, high-skills and high-growth companies; promoting and supporting our entrepreneurs, researchers and students to develop and grow their ideas brings economic benefit across the region.



Creating new businesses



Innovating to grow existing businesses



Establishing research hubs that support key industrial sectors



Developing the next generation of business entrepreneurs

Industrial Strategy

The UK's emerging Industrial Strategy requires cross-sectoral collaboration to translate world class research into investment and jobs. N8 is working with partners on a number of aspects of the strategy, from better Entrepreneurship training, through Industrial Digitalisation to Life Sciences. In Addition, we are working within Science and Innovation Audits to deepen understanding of areas of potential globally competitive advantage across the region. These audits examine key science and innovation strengths to provide evidence of their potential to build and develop world-leading products, services and technologies.

In the North the N8 universities have worked with LEPs to lead Science and Innovation Audits in areas of Northern economic potential:

Wave 1:

- Manchester and East Cheshire: Health Innovation, Advanced Materials, Digital, Energy, and Industrial biotechnology.
- Sheffield and Lancaster: A Northern Advanced Manufacturing Innovation Corridor.



Wave 2:

- York + N8, Hull, and Sheffield Hallam: The Northern Bioeconomy
- Newcastle, Durham, Liverpool, Hull and Scottish Enterprise: Offshore Energy
- Liverpool: Northern Chemicals and Processes, FMCG, and High Performance Computing
- Leeds: Medical Technologies

N8's research excellence, collaborative approach and focus on economic growth will position our universities as central players in Northern innovation and growth during 2017-2020.

We welcome enquiries from businesses and organisations wanting to work closely with us.

 Follow us @N8research
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PARTNERSHIP