

Life Sciences, Pharmaceuticals and Process Industries in the North East

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Introduction

The life sciences, pharmaceutical and process industries generate £2bn in commercial revenue (NECA, 2025). The sector employs approximately 8,000 people. It also contributes £4.4bn in gross value added (GVA), representing 6.39% of regional economic output.

The sector combines an established medicines manufacturing base with full capability to develop drug manufacturing processes of tableted medicines, biologics and medical devices. Major firms include GSK, Accord Healthcare, Organon and Piramal with a growing cohort of research-intensive SMEs clustered around Newcastle Helix in Newcastle city centre and NETPark in County Durham.

The sector is underpinned by nationally significant research and innovation assets, including the Centre for Process Innovation (CPI), Newcastle University and the Newcastle-upon-Tyne Hospitals NHS Foundation Trust (NuTH).

Strengths

Integrated biopharmaceutical cluster

The North East (and Tees Valley) has an established end-to-end biopharmaceutical manufacturing cluster with one of the largest pharmaceutical clusters in the UK (University of York 2025). Indeed, the region has the UK's highest pharmaceutical GVA per head at £930 and has demonstrated real-terms growth of 152.5% between 2018 and 2023 making the North East the fastest-growing pharmaceutical region in the UK (NEAA 2026).

Anchored by Fujifilm Biotechnologies, a commercial biologics manufacturing facility in the Tees Valley, the region is home to small molecule, active pharmaceutical ingredients (API) and fine chemical companies, including Sterling Pharma Solutions, Piramal, SCM Pharma, High Force Research and other chemical companies in the wider supply chain supporting the biopharmaceutical cluster.

80% of all regional products are exported with the value of North East and Tees Valley medicinal and pharma exports more than doubling over the past decade from £0.5bn in 2014/15 to £1.2bn in 2024/25 (North East Combined Authority 2025).

Research and development

The region's academic research capabilities are stimulated and enabled by complementary strengths from across the North East. Newcastle University's Faculty of Medical Sciences possesses world-class research expertise in fundamental biomedical processes, translational medicine and population health. Ageing and research into multiple long-term conditions through the NIHR Newcastle Biomedical Research Centre in Ageing remains world-leading and the University has distinctive international research specialisms and critical mass in mitochondrial, cancer and rare diseases.

Together, Newcastle University and NuTH form the Newcastle Health Research Partnership, one of eight NIHR and NHS regional Academic Health Science Centres in the UK that bring together medical research, health education, and patient care.

Durham University's contribution to life sciences, pharmaceuticals and process industries is rooted in chemistry and its interface with the biological sciences, structural biology and biophysics, psychology, anthropology and health inequalities.

Northumbria University's applied research is concentrated in sport, exercise and rehabilitation, sleep science, and brain, performance and nutrition. The University of Sunderland's School of Pharmacy contributes to the region's research strengths in pharmaceutical formulation.

Talent and skills ecosystem

The Universities of Durham, Northumbria, Newcastle, Sunderland and Teesside provide a rich pipeline of talent to the sector producing approximately 3,000 graduates per annum across biosciences, chemistry, chemical and process engineering, pharmacology and biomedical sciences (NEAA 2026). Including

adjacent and broader science, technology engineering, mathematics and health disciplines, the universities generate approximately 13,000 students per annum (NEAA 2026).

From a demand perspective, the life science, pharmaceutical and process industries employ approximately 10,000 employees in the North East MSA geography (NEAA 2026). Inclusive of health and social care, the region employs approximately 150,000 (ONS 2025). The pharma sector directly employs approximately 5,640 staff, an increase of 51% compared to 2017 (North East Pharma 2024). Demand from the regional pharmaceutical supply chain is projected to grow by a compound annual growth rate of 7% reaching 13,708 roles by 2030 (NEAA 2026).

However, apprenticeship provision in the sector remains structurally thin. The North East records one of the lowest apprenticeships start rates of any English region relative to population at levels 3-5, and apprenticeship standards most relevant to the sector e.g. laboratory technician, process manufacturing etc. account for under 1% of all starts in England in 2024/25 (DfE and DWP 2026).

National Innovation Assets

The North East is home to several national innovation assets that help to translate small and large molecule therapies and medical diagnostics into commercial products and processes.

Supporting deep-tech formulation, biologics and processing scale-up, CPI, part of the High Value Manufacturing Catapult, operates the National Biologics Manufacturing Centre, National Formulation Centre, National Healthcare Photonics Centre, National Industrial Biotechnology Facility and the RNA Centre of Excellence enabling bioprocessing scale up, sustainable materials, medtech and pharmaceuticals development and commercialisation.

In addition to CPI, the region is home to several other additional and related innovation assets. The NIHR Innovation Observatory provides future intelligence and

AI tools to support medicine, diagnostics, devices and digital, insights, data science and AI, industry, and information research. The National Innovation Centre for Ageing supports organisations to develop new solutions to ageing, and Fuse, the Centre for Translational Research in Public Health, is a collaboration across the region's universities focused on public health prevention. Moreover, the academic partners of FUSE are also core partners in the NIHR School for Public Health Research.

Beyond the North East, Tees Valley has translational and complementary applied innovation centres, including the Materials Processing Institute, which supports innovation of advanced materials, and the National Horizons Centre, which specialises in biomanufacturing, digital health and sustainable biotechnology.

Clinical research and translational infrastructure

The region has significant clinical research infrastructure and a population with complex, long-term health conditions. These strengths enable research organisations and commercial partners to run a high volume of clinical studies and introduce new therapies and diagnostics into healthcare practice.

Newcastle and the North East is consistently ranked as a top performing centre for recruitment and time-to-target for clinical trials by the NIHR. This is enabled by the NIHR Newcastle Clinical Research Facility and the Newcastle Clinical Trials Unit at the Royal Victoria Infirmary Hospital in Newcastle and supported by the Research Design Service North East and North Cumbria, and the NIHR Patient Recruitment Centre: Newcastle, one of five nationally for late-phase commercial research.

Additional clinical research and translational infrastructure include the NIHR Newcastle Biomedical Research Centre in Ageing and the NIHR HealthTech Research Centre in Diagnostic and Technology Evaluation.

Supporting clinical trials and the wider regional translational research and innovation ecosystem, the region operates several

regional “triple helix” (industry, academia and policymakers) partnerships to support from invention to innovation diffusion. This includes the NIHR Applied Research Collaboration (ARC) NENC, a partnership across six universities, health and social care, local authorities and VCSE organisations supporting health innovation, and the NIHR Clinical Research Network North East and North Cumbria.

The North East also operates several health data and population assets stimulating academic and industry innovation. This includes the Great North Care Record, a regional shared care record, the Research+Me programme, which is a consent-for-contact volunteer and disease-specific registry, and the National Innovation Centre for Data, which supports regional and national data science capacity and skills.

Challenges

Structural gaps in the ecosystem

The North East's life sciences, pharmaceutical and process industries ecosystem is strongest at the discovery, translational and scale-up stages of innovation. Universities, clinical research infrastructure and innovation assets support early-stage research and evaluation, while organisations such as CPI provide process development and scale-up capability.

However, the region has a comparatively thin pipeline of indigenous firms at start-up, SME and large-company scale, limiting the sector's ability to achieve broader growth.

Consequently, the North East remains a net exporter of talent due to ongoing retention and absorption challenges from its industrial base.

The predicament, primarily at firm start-up and scale-up phases, is further exacerbated by limited regional growth capital, particularly at post-series B finance phase, with the North East limited by its mix of venture capital firms and private investment capital (Square One Law/CPI 2024).

Mismatch of skills capabilities and supply with demand

Despite projected growth of employment in the sector to 2030, the region's process industries, pharmaceutical and life sciences industry illustrates a mismatch in supply with demand. Only 15% of students from universities studying core disciplines in regional academia that were previously domiciled elsewhere stay in the region to work (JISC/HESA 2026).

On learner readiness and capabilities, labour market intelligence has highlighted that employers have a critical need for higher level graduates to possess stronger core organic chemistry, GxP standards and digital technologies (NEAA 2026). At the other end of the spectrum, senior level leadership is often sought from outside the North East, both from other regions within the UK and abroad.

Limited physical infrastructure

Growth of the sector depends on the North East creating the conditions needed to attract investment and support business growth. At present, the region continues to be hindered by a shortage of suitable small-scale laboratory space for early-stage businesses graduating from incubators and limited flexible and modular provision to support frictionless expansion within the same sites (NECA 2026). The low visibility of existing and available laboratory space coupled with landlord's concerns for fit-out specifications and costs compound supply and demand dynamics enabling growth of the sector.

Branch plant pharmaceutical sector

The North East has a small but strong pharmaceutical manufacturing industry led by companies including GSK, Accord, Organon, Quotient and Piramal. Most larger firms are foreign-owned and concentrated on manufacturing pharmaceutical end-products. Therefore, there is a dependency on globally mobile corporate decisions that present a significant risk and exposure to economic shocks and geopolitical instability e.g. recent U.S. pricing and tariff pressures on the region's pharmaceutical industry.

Limited policy alignment, critical mass and recognition

Despite the importance of life sciences to the North East MSA, the region's sector and interconnected clusters have limited recognition at a northern e.g. Northern Growth Strategy and national policy scale e.g. UK Government Life Sciences Sector Plan. Indeed, at a North East and Tees Valley geographical scale, the integration in support of the sector is limited. For example, the two current Local Skills Improvement Plans (LSIPs) for the North East MSA and TVCA prioritise healthcare and clinical (North East) and bio-manufacturing (Tees Valley) employment but neither offer a joined-up integration of commercial and employment needs that span both geographical administrative boundaries.

Opportunities

Focus on niche specialisation

The North East has research, innovation and industrial specialisms in specific fields that should remain a focus for future investment and for local, regional and national policy support. This includes world-class basic research in ageing and healthy longevity, and opportunities to grow the region's emergent health innovation, particularly in healthcare photonics and diagnostics.

The North East should continue to build on its medicine's formulation and manufacturing capabilities at scale illustrated in the region's investment in the NHS Medicines Manufacturing Centre, by continuing to position the region as the place of manufacturing capability and not discovery science.

Onshoring and supply chain resilience

The Life Sciences Sector Plan (DSIT 2025) is explicit that the sector's dependence on complex global supply chains and a small number of international suppliers creates exposure to shocks, geopolitical instability and IP theft, and that strengthening resilience is essential.

The North East has a strong manufacturing base, port infrastructure, available land and competitive operating costs, making it well

placed to attract investment and support industrial growth. A coordinated pan-regional investment offer could help to attract life sciences investment from key international markets, including the US and Japan.

Convergence with process and clean energy

The region's comparative advantage is at the intersection of bioprocessing, industrial biotechnology and sustainable manufacturing, where chemistry-based industries meet life sciences. As the North East MSA is being backed by UK Government at a national scale and through the Northern Growth Strategy in its net zero capabilities and opportunities, the North East could position life sciences as adjacent to and enabled by green bioprocessing and decarbonised pharma manufacturing.

Capital-specific funding

Through the North East Investment Fund, the North East MSA has committed to investing circa £390m in regional spinouts, start-ups and growing SMEs over the next 15 years (NECA 2025).

Life sciences, process and pharmaceutical firms have long development timelines and significant capital requirements, creating a strong rationale for ring-fencing sector-specific patient capital within existing and future investment funds. This would provide life sciences firms with dedicated funding over a longer temporal period rather than competing for generic SME funding which are unfavourable in comparison to businesses in sectors with faster return on investment.

Cluster leadership and coordination

Cluster-based leadership is distributed across different organisational bodies with unmatched geographical boundaries. For instance, the North East Process Industries Cluster (NEPIC) is a chemistry-led and Teesside-weighted organisation, the Health Innovation North East and North Cumbria (HI NENC) and the North East and North Cumbria Integrated Care Board align to the same geographical footprint, and organisations including, Bionow and the Northern Health Science Alliance (NHSA) are pan-Northern

cluster and policy bodies. The gap in the North East's cluster architecture could be addressed by bringing life sciences and process industry organisations together to develop and promote a unified sector proposition.

Translating health problems into the health propositions

The North East has a high disease burden, an ageing population, and deep, long-term health inequalities. The NENC ICB, the largest ICB in England with a population of 3.1m, operates a £7bn budget to tackle health-driven economic inactivity at a population scale. Supported by academic and translational researchers, industry, clinical research and data infrastructure, and high recruitment-to-target rates for clinical trials, the region has the potential to demonstrate that health innovation can directly impact the local and regional population by moving people back into work and healthy living. As a result, the approach, methods, partnerships and solutions could provide replicable and scalable solutions for other parts of the country to utilise, adopt or learn from.

Unlock incubation and grow-on space

The growth of the North East's life sciences, pharma and process industries start-up, spin-out and scale-up of SMEs is contingent on public and private investment in laboratory space. Together with proposals for converting vacant property into flexible lab space, the North East MSA's Local Growth Plan identifies the potential for investment in new dedicated incubation space, including the construction of Biosphere 2.

Developing suitable laboratory and commercial space alongside encouraging flexible leasing models that reduce upfront risk for early-stage and scaling companies and exploring how shared infrastructure frameworks could lower costs for occupiers and incentivise landlord participation will be critical to the sector's growth.

The region should examine how Biosphere 2 and other city centre sites in Newcastle-upon-Tyne, NETPark and other satellite sites connected to regional hospitals and university research facilities can build into a more

coordinated pipeline of grow-on space for life sciences firms. This could be delivered in partnership with recognised providers and neighbouring life sciences clusters, including Darlington Science Park.

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