



ELECTRIC NORTH EAST ENGLAND

Driving the future of electrification
technologies in the UK

invest | north east
england





Why invest in North East England?

- ⚡ With a rich manufacturing heritage, companies moving to North East England benefit from a highly skilled and productive workforce of more than 1.2 million people.
- ⚡ Excellent connectivity with international airports, deep sea ports, an exceptional road and rail network, and the largest rapid transit system outside London – the Tyne and Wear Metro – allowing executive and workforce movement throughout region and the UK.
- ⚡ An extensive portfolio of high-quality industrial development sites, all with easy access of transport infrastructure. The region's £160m Investment Zone across four sites delivers tax incentives or flexible funding to forward fund infrastructure investment.
- ⚡ A highly experienced and skilled workforce, renowned for its exceptional productivity and loyalty. The region's five universities, colleges and specialist training providers deliver courses and training tailored to industry needs.
- ⚡ Recognised for exceptional R&D capabilities, engineering, and fabrication skills, Research & Technology organisations and the region's five universities provide unparalleled expertise and support in the development of surface transportation and battery technologies.
- ⚡ An established cluster of companies leading the way in electrification, with all aspects of the supply chain located in the region. There are major opportunities for innovation and collaboration with world leading manufacturing and technology businesses.

NORTH EAST ENGLAND THE PREMIER LOCATION FOR INVESTMENT IN ELECTRIFICATION TECHNOLOGIES

With more than £3bn of investment announced in the past three years, North East England is leading the future of mobility, electrification and battery technologies in the UK.

Home to pioneering and innovative companies shaping the future of electrification – including global OEMs like Nissan, AESC, Turntide Technologies, and innovative SMEs like Advanced Electric Machines and Turbo Power Systems – North East England remains at the forefront of developments in electric vehicles, energy systems, power electronics and battery technologies.

Europe's first Gigafactory opened in North East England in 2012, and in 2025 the UK's only at-scale Gigafactory becomes operational. With significant assets and expertise in battery technology, North East England has the infrastructure to support the whole battery life cycle – from formulation and advanced materials, to second life applications, energy storage and vehicle-to-grid technology.

Thanks to its unique and comprehensive asset base for innovating and demonstrating solutions across the whole energy system, North East England can provide a base for world leading research and a powerful testbed for international businesses.

ELECTRIFICATION IN NORTH EAST ENGLAND

North East England's talent, skills and expertise in electrification extends across the entire ecosystem – from whole life-cycle battery capabilities, off highway applications and energy systems, to net zero and power electronics, machines and drives. All aspects of the supply chain can also be found in the region.

Electrification companies investing in North East England can seamlessly integrate into the region's collaborative and innovative cluster, as well as its connected and established supply chain and manufacturing ecosystem.

Innovation, research and technology centres across the region provide world-class facilities for R&D – often co-located with OEMs and manufacturing hubs. North East England has significant assets and expertise in the manufacture of vehicles and components as well as battery technology across the whole battery life cycle; from formulation and advanced materials to second life applications and energy storage.

Connect with major OEMs based in the region.

Nissan, AESC, Komatsu, Caterpillar, and Hitachi are all based in the region; alongside global suppliers such as Unipres, Nifco and Faltec Europe.

-  **Newcastle University:** Delivers industry collaboration across battery tech and power electronics motors and drives
-  **Northumbria University:** US/UK joint Global Centre for Sustainable Li-Ion Battery Recycling
-  **North East Advanced Material Electronics:** world class organisations delivering growth and innovation in future mobility and advanced manufacturing
-  **CPI:** Part of the High Value Manufacturing Catapult, CPI delivers services to commercialise new products and services across materials, formulations, sensors and optimisation
-  **Offshore and Renewable Energy Catapult:** comprehensive, independent test and demonstration facilities
-  **Durham Energy Institute:** green power research and development.

A significant cluster of companies working across the whole electrification ecosystem can be found in North East England, supported by the North East Automotive Alliance.

Connected Energy

A global leader in developing, building and operating stationary battery energy storage systems using second-life batteries.

AEM (Advanced Electric Machines)

Designing and manufacturing electric powertrain technologies.

Turntide Technologies

Decarbonising global industries through innovations in vehicle powertrain components – including motors, power electronics, energy storage and thermals.

Tharsus

A contract manufacturer with expertise in advanced manufacturing, electro-mechanical assembly, and robotics.

Turbo Power Systems

Providing innovative, high-speed machines and power electronic solutions for the energy, industrial, transport and defence markets.



Established in 2015, the NEAA champions the region's automotive capability and has firmly established the North East of England as a true global automotive and electrification powerhouse. With over 300 participants, it stands as one of the fastest growing clusters across Europe.

Dedicated member services include business growth, trade and investment, skills, and supply chain development. NEAA provides sector leadership and drives innovation to place the North East sector at the forefront of the design and development of new automotive technologies and manufacturing processes.

Alexander Battery Technologies

Specialising in the design and manufacture of bespoke portable power, batteries, and charging solutions across diverse sectors including medical, safety, electrified vehicles, and robotics.

Fuzzy Logic Studio

Creating 3D visualisation and simulation solutions to enhance business processes and communication.

SMD

Specialising in the design, manufacture and deployment of remotely operated and autonomous power and control solutions.

SKILLS, TALENT AND WORKFORCE



Cutting-edge, specialist skills in advanced manufacturing within the automotive sector build on centuries of manufacturing and engineering expertise. North East England has a productive and highly skilled manufacturing workforce of more than 110,000 people. Reinforcing the region's position as a world-class destination for future skills, 69,000 are specialist workers employed in advanced manufacturing businesses.

Nissan Sunderland has been Europe's most productive car plant for the past seven years.

Adding to the pipeline of talent are 124,000 students currently studying in the North East. 8.7% of all students in the region are enrolled in engineering and technology-related subjects – the highest proportion of any UK region.

With devolved control of Adult Education Budget, skills delivery in the region is aligned to employer needs and targeted at key sectors including automotive and advanced manufacturing. Alongside this, there is further investment in dedicated careers programmes in North East schools providing industry advisers and educational resources for the classroom to drive ambition in the workforce of the future.



The Institute of Electrification and Sustainable Advanced Manufacturing (IESAM)

Newcastle University IESAM is helping to grow PEMD skills across North East England by supporting curriculum development and providing access to high quality training for those looking to pursue careers in electrification or sustainable advanced manufacturing – including technical skills and advanced and higher degree apprenticeships.

National Battery Training & Skills Academy (NBTSA)

Designed to support the UK's growing battery manufacturing industries across all levels of education by delivering hands-on training, skills and qualifications in battery manufacturing. The National Battery Training & Skills Academy is a collaboration with Newcastle University and New College Durham, and is funded by The Faraday Battery Challenge. It addresses identified industry skills gaps, ensuring operators, technicians, engineers and managers have the correct skills now and in the future.

Electrification Vocational Degree programmes

Empowering organisations with the skills and knowledge for engineering innovation through higher and degree apprenticeships. The programme offers specialisms in:

- Power electronics, machines, and drives
- Batteries
- Advanced manufacturing.

Developed with industry partners, Electrification Vocational Degree programmes ensure organisations have the skills and expertise needed to drive critical engineering innovation in electrification and advanced manufacturing.

MADE NE (Manufacturing, Automation, Digitalisation, Electrification North East)

Led by Nissan with regional partners, the £14.7 million MADE NE project will create world leading training facilities for the future of the automotive sector.

Supported by £9.7 million from the North East Combined Authority, MADE NE will provide open access facilities to industry for skills training in the region's advanced manufacturing sector, with a particular focus on EV and battery manufacturing. It covers skills development from primary school to apprenticeships, to in-work learning and training. The centre will also support targeted industrial innovation projects with funding and equipment.

RESEARCH & DEVELOPMENT AND INNOVATION

From materials, minerals and formulation to second-life, off-highway and recycling, the North East has a concentration of leading academics and an excellent R&D environment to lead innovation in electrification.

Battery technology

Newcastle University is a founder member of The Faraday Institution; the UK's independent institute for electrochemical energy storage research, skills development, market analysis, and early-stage commercialisation. It brings together research scientists and industry partners to develop the next generation of batteries.

The North East has a powerful cohort of academic and industrial expertise in battery technology that builds on existing strengths in electrification, automotive and advanced manufacturing. The combined

research capabilities of the North East's five Universities and CPI make the region a leading hub for the battery industry and a prime destination for inward investment.

CPI

Based at NETPark (North East Technology Park) in County Durham, CPI is a technology innovation centre and a partner of government's elite High Value Manufacturing Catapult. It uses applied knowledge in science and engineering, combined with state of the art facilities, to enable companies to develop, prove, prototype and scale up the next generation of products and processes.

Providing product and process development facilities and expertise in specific areas, one of the major markets that benefits directly from CPI's work is the transportation sector.

EV36Zero

A £1 billion flagship electric vehicle hub at Nissan Sunderland, EV36Zero will bring together electric vehicles, renewable energy and battery production; setting a blueprint for the future of the automotive industry.

Consisting of three electric vehicles (Qashqai, JUKE, LEAF), three Gigafactories and up to £3bn investment, EV36Zero is a world-first EV manufacturing ecosystem; bringing together a new electric crossover for the Nissan Sunderland plant, the Envision-AESC Gigafactory, and the renewable electric microgrid.



Power Electronics, Machines and Drives

Driving the Electric Revolution Industrialisation Centre North East – led by Newcastle University – provides open access facilities with state of the art equipment, including DER-funded power electronics and electrical machines assembly lines. The centre brings together technology and manufacturing expertise in electrification research and development.

Newcastle University is home to a Centre for Doctoral Training for Sustainable Electric Propulsion, which supports the development of skills within academia and industry to deliver the net zero theme.

Advanced materials

North East Advanced Material Electronics is a dynamic cluster in the region working to revolutionise electronics beyond silicon.

In 2023, CPI was awarded £12m to establish

the Advanced Materials Battery Industrialisation Centre, with the aim of boosting British production of crucial materials used to manufacture sustainable batteries. Based at NETPark in County Durham, and at WMG in Coventry, the centre will bridge the gap between academic research and battery production.

Net zero

Based in Blyth, Northumberland, the Offshore and Renewable Energy Catapult enables innovation and accelerates the development of offshore renewable energy. Facilities include a new Technology Development Centre and a Digital, Autonomous and Robotics Engineering Centre.

Durham Energy Institute – based at Durham University – produces world-class research to understand energy decarbonisation and integrated solutions to accelerate the energy transition.



SUPPORTING YOUR MOVE TO NORTH EAST ENGLAND

Invest North East England is the first point of contact for companies looking to locate or expand to our region. Our highly experienced team opens the door to the region's network of specialist organisations and individuals with the information, support and advice essential for businesses locating here.

We have access to the UK Government, support agencies, sector specialists, universities, colleges, knowledge networks, finance streams and business organisations; making your move to North East England seamless.

Invest North East England is part of the North East Combined Authority.

Invest North East England provides a range of practical relocation support and advice including:



Advice on availability of land, property and costs



Information and statistics on the local economy, demographics, infrastructure and labour market



Meetings with key stakeholders as part of organised visits



Access to finance – guidance on the availability of financial assistance and grants



HR support, including wage comparisons, training, recruitment and local market information



Support for key employees and their families moving to the area



Introductions to supply chain knowledge networks and technological expertise



A personal Account Manager dedicated to your project with a full aftercare programme



To find out more, call, email or visit:

+44 (0) 7464 649 579
inwardinvestment@northeast-ca.gov.uk
ELECTRICNORTHEAST.CO.UK

ELECTRIC NORTH EAST ENGLAND

+44 (0) 7464 649 579

inwardinvestment@northeast-ca.gov.uk

ELECTRICNORTHEAST.CO.UK

invest | northeast
england

NE North East
Combined
Authority