

NORTH EAST ENGLAND WORKS FOR SPACE AND SATELLITE APPLICATIONS

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Space capability in the North East

Why choose North East England?

Universities

Skills and training

Facilities and assets

Eco-system

Cross cutting sectors

Connectivity

Soft landing packages

Our service



£129m

The region contributed an estimated
£129 million to the UK space economy (2021)



32,500+

People with expertise in data analytics, AI,
cyber security and software development



170+

university courses

Relevant to the space and
satellite applications sectors



54,000+

Science Technology Engineering
and Mathematics students

Space capability in the North East

The space sector is of ever-growing importance to the UK, and North East England is playing an integral role in the growth of the industry.

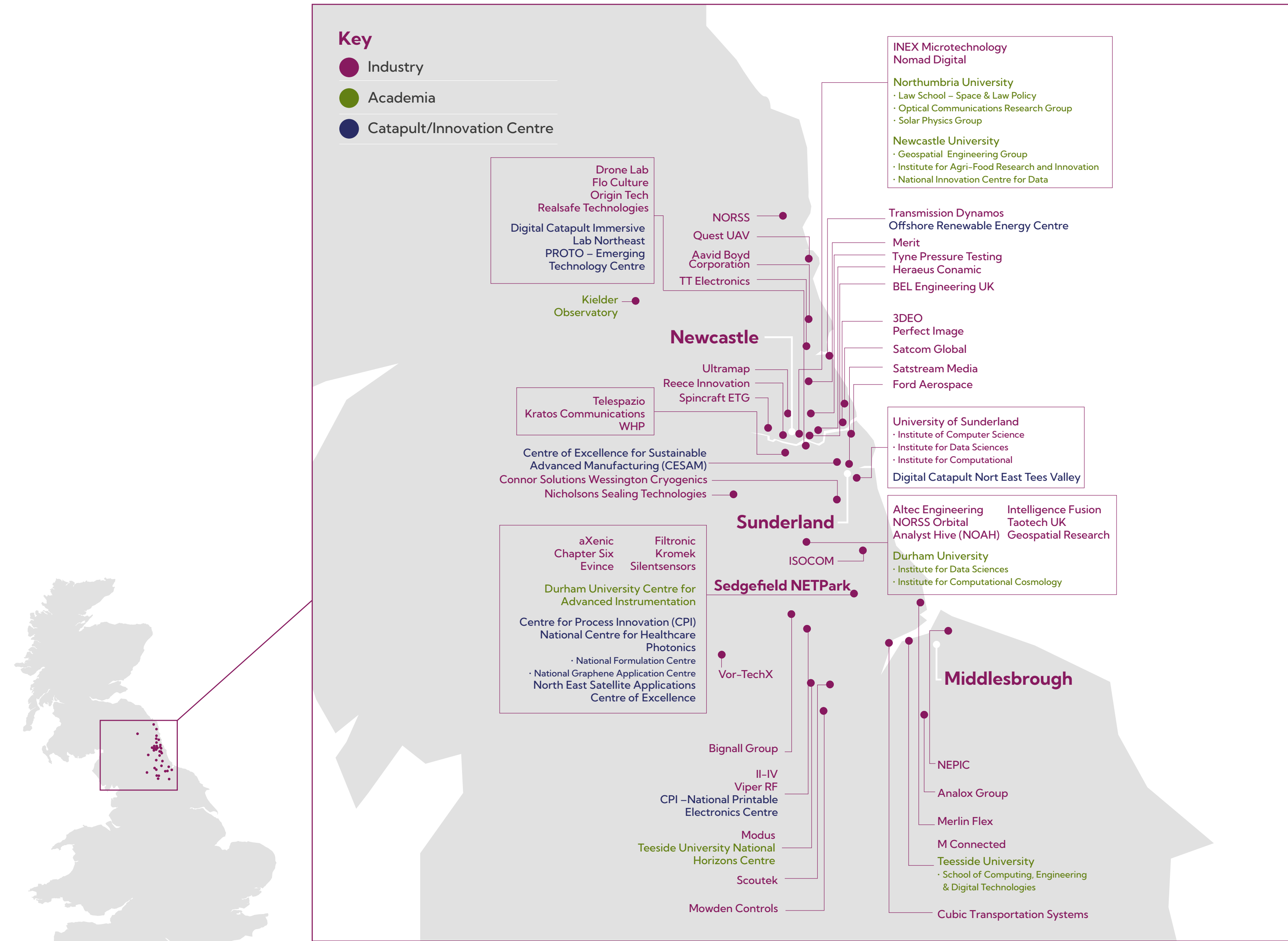
In 2021, the region contributed an estimated £129 million to the UK space economy.

Already equipped with a strong heritage of engineering excellence, an established cluster of well-developed space capabilities, a vibrant ecosystem, and close proximity to other space clusters, the space sector presents an exciting opportunity for companies locating in North East England.

The opportunities are boundless.

Launch your business in North East England.

NORTH EAST ENGLAND WORKS FOR SPACE AND SATELLITE APPLICATIONS



Why do space and satellite application companies choose to locate in North East England?

North East England is a major player when it comes to the development of space technologies and satellite applications. The region has a proven track record in the space sector, with a growing industry cluster, access to a large and knowledgeable workforce, universities known worldwide for research and innovation, highly competitive operating costs, extensive infrastructure, and enviable transport links.

The North East space cluster consists of more than 70 innovative companies operating in space related activities. Companies already based here, with many accessing global markets include Raytheon NORSS (the UK's first orbital analyst centre), Rhea Group, Telespazio and Kratos Communications, plus satellite application specialists such as Boyd, Ryleore AI, aXenic and UltraMAP.

Our established cluster of companies is bolstered by a workforce of over 2,000 people in space related sectors and is led by the North East Satellite Applications Centre of Excellence, with a Space Leadership Group consisting of industry, academia public sector and politicians driving the sector.



Cost Competitive

The North East is one of the most cost competitive locations in Europe, offering specialist accommodation for space and satellite companies at competitive rates. The region has a strong skill base with lower costs when compared to other UK regions and Europe.

With a range of hubs, office space and hot-desking facilities, the North East offers the perfect landing for any organisation. The region has two Space Hubs, based in Durham, offering soft landing packages for inward investors.



Location

Our proximity to Scotland and the North Sea provides easy access to the spaceports and also the potential to work in collaboration with the established Scottish space cluster. The North Sea has assets that can provide the ideal environment for testbeds and for businesses to develop new products and services using satellite applications.



Skills

There are over 2,000 people currently employed in space related activities in the North East. The region has a thriving software sector that employs over 32,500 people with expertise in data analytics, AI, cyber security and software development, which directly supports satellite applications. There are also specialisms and expertise in immersive technologies, advanced manufacturing and 5G to support the sector's development and entrance to new markets.

More over page



Why do space and satellite application companies choose to locate in North East England?



Facilities

Facilities such as North East Technology Park (NETPark) bring our science and technology communities together to collaborate and network. The North East Satellite Applications Centre of Excellence, based at NETPark, helps businesses of all sizes exploit the use of satellite data, technology and applications to gain a competitive advantage in a global market. The centre is well-connected both regionally and nationally to assist companies with building connections for research and commercial collaborations.



University expertise

A strong digital ecosystem is enhanced by five universities and their world-leading research excellence in space and computer science and informatics. They also deliver highly prestigious training and research programmes through Centres for Doctoral training in Geospatial systems, Fusion Science and Cloud Computing for Big Data.



World leading innovation

The region has centres of academic and industry excellence in advanced instrumentation for space, sensors, printable electronics, materials science, graphene applications, photonics, formulation, smart data, GNSS, artificial intelligence and immersive technology for research and development. Businesses can also access European Space Agency funding programmes, UK Space Agency programmes and local schemes and grants to support innovation and R&D work.



Cluster groups and networks

There is a vibrant space community network in the region that often network, share experiences and explore collaboration and funding opportunities. Space and satellite companies choosing to locate in North East England will benefit from a highly beneficial soft landing package with wrap around support, as well as a wide range of business support and cluster networks primed to offer guidance and advice across a range of topics.



Connectivity

With excellent digital infrastructure and connectivity alongside these fantastic facilities and business networks, the North East offers the ideal conditions for seizing the opportunities of the space and satellite applications sectors.



Digital eco-system

The region has an established digital sector with specialisms in software, large data management and analytics, and telecommunications primed to support and collaborate with space and satellite application companies.

University expertise

The North East's academic ecosystem is exceptional and offers huge opportunities when it comes to space research.

Our universities have established links with external partners and work collaboratively with the private sector. From up skilling to bespoke training options to new curriculum themes to apprenticeship, our educational institutions are ready to work with businesses.

The region's five universities (Durham University, Newcastle University, Northumberland University, the University of Sunderland, and Teesside University) provide access to more than 54,000 STEM students, and they are a key contributor to the local talent pool, giving companies access to the highest calibre of graduates.

From strategic partnerships and collaboration, access to world leading research projects, to being part of a vibrant space ecosystem – there are boundless opportunities for companies locating in North East England.

Recent innovative research programmes in the region range from major space weather projects (such as SULIS), and research into optical communications at Northumbria University, to Durham University's work on thermal infrared telescopes and contribution to the James Webb space telescope.



NORTH EAST ENGLAND WORKS FOR SPACE AND SATELLITE APPLICATIONS



Durham University

Has a significant amount of research interest and expertise in the space sector across several different research groups. One of the highest ranked Universities globally for space science; joint first in the UK and second in Europe. A key facility is the Centre for Advanced Instrumentation.

[visit website](#)



Newcastle University

Pioneers change within science and engineering that can apply across the space sector such as quantum technology and data sciences. They host the Centre for Doctoral Training in cloud computing for big data, the Centre for Doctoral Training for Geospatial Systems as well as the National Innovation Centre for Data.

[visit website](#)



Northumbria University

A research-rich, business-focused, professional university with a global reputation for academic excellence. The University has research expertise in Satellite Communications, Space Law and Policy, Space Weather, CubeSats, Aerospace Medicine and Rehabilitation, Vehicle Space Re-entry, and Space Launchers.

[visit website](#)



University of Sunderland

Has expertise in advanced manufacturing and digital engineering technologies and they are able to provide a range of valuable services to manufacturers. A leading group in international research in automotive, manufacturing and maintenance engineering and ultra low carbon vehicle technology.

[visit website](#)



Teesside University

Teesside University generates and applies knowledge that contributes to the economic, social and cultural success of students, partners and the communities it serves. Teesside's Aerospace Engineering degree supports the design, test and build of aircraft, spacecraft, satellites and missiles.

[visit website](#)

Unbeatable skills and training

There are over 2,000 people currently employed in space related activities in the North East.

The North East offers skills and experience that are transferable to the space and satellite sector – A thriving software sector with expertise in data analytics and computer science plus an established advanced manufacturing sector with expertise in precision engineering and advanced electronics, all compliment and support the space industry.

Our strong digital ecosystem is enhanced by our five universities and their world-leading research excellence in computer science and informatics. There are over 54,000 Science Technology Engineering and Mathematics students in the region and we have the highest number of computer sciences students in England.

There are more than 170 university courses in the region which are relevant to the space and satellite applications sectors. The North East has well-regarded maths, physics, electronics and engineering degrees and offer specialist courses in geospatial, robotics, automation and data science subjects.

Our academic institutions work collaboratively with the private sector and skills networks, to ensure our workforce can equip themselves with the relevant skills the sector demands. Bespoke training courses, partnerships and alliances have been formed in the region to ensure skills needs are met.



Current research and innovations include:

Durham University

At the cutting edge of space research with an outstanding reputation in space science and is consistently ranking in the global top 20 and European top 10 Institutions. It has been named in World rankings for Physical Sciences (The Times Higher Education (THE) World University Subject Rankings) in every year of the ranking since 2012.

The university has developed novel optical systems including the manufacture of one of the key subsystems for the James Webb Space Telescope

A new Responsible Space Innovation Centre at Durham University will build a critical mass of experts across space technology, space business and operations and space law and governance. The centre will have three core activities research, industry engagement and training focussing on post-grad space leadership and applications courses.

Northumbria University

Leading a major study to improve space station astronauts health, experts are leading research into how astronauts' bodies decondition while living and working on the International Space Station.

In addition, funding from the UK Space Agency has been awarded to Northumbria University for the next stage of their work on space communications. The Laser Optical Communications for CubeSats project is one of 11 that will share a £7m grant.

NUdata

A new £1.3 million Centre for Doctoral Training specialising in the field of data intensive science. The centre will be run by both Newcastle and Northumbria Universities, and it will be supported by over 40 industrial partners from across the globe.

Facilities and assets launching the space sector

Companies operating in the North East space and satellite applications sectors can benefit from a wide range of facilities and assets to support their businesses growth and gain a competitive advantage in a global market.

North East Space Skills & Technology Centre

The North East Space Skills and Technology Centre (NEEST) is a £50m facility developed by Northumbria University with investment from the UK Space Agency and the space and satellite division of industry giant Lockheed Martin. NESST will house world leading pace experts and unite industry with academia, to transform the UK space economy.

Companies locating in North East England will be in close proximity to NEEST and can collaborate with industry experts on innovative research and technological developments.

NESST will be an anchor facility to catalyse development of the North East Space eco- system through industry and academic collaboration. Infrastructure and facilities include:

- Rapid prototyping and space technology development.
- Space readiness testing facilities for CubeSats and medium-scale satellites.
- Specialist research facilities for optical communications research
- Connectivity with wider LM Space research facilities in US & Australia for wider research and technology collaboration.
- Collaboration spaces for supply chain eco-system development.
- STEM outreach facilities.
- Skills training laboratories and teaching facilities for eco-system nurture
- Offices for Northumbria & Lockheed Martin, visiting collaborators and staff from other space sector companies.



NETPark

Located in Durham, the North East Technology Park is one of the UK's premier science, engineering and technology parks for the commercialisation of cutting-edge research and development by major international organisations, universities and entrepreneurs. NETPark features a new space incubator, funded by the UK Space Agency, which works with the North East Satellite Applications Centre of Excellence to nurture start-up businesses and develop new technologies in these fields.



North East Space Hub

The North East Space Hub (NESH) at NET Park, will be the epicentre for the sector and will be connected to a wider ecosystem of space facilities and networks. The ambitious project aims to provide the capabilities and facilities to enable businesses in the space and satellite sectors to innovate, thrive and scale-up.



National Innovation Centre for Data

Based in The Catalyst building on Newcastle Helix, is a unique facility focused on accelerating innovation. It delivers key technical and practical data skills into organisations to improve business competitiveness and increase growth using digital data.



Orbital Analyst Centre

The UK's first and only centre, based in Durham and is managed by Northern Space and Security Ltd (NORSS), a specialist space awareness and surveillance company. The NORSS Orbital Analyst Hive (NOAH) works to identify, track and monitor the behaviour of objects in space.



Spider 500 radio telescope

The five-metre diameter Spider 500 radio telescope has been installed in Kielder Observatory, Kielder Forest, in Northumberland and is making studying space more accessible. The observatory hopes to use the telescope for citizen science projects, engaging audiences in STEM, inspiring career pathways and providing student and apprenticeship opportunities.

Vibrant eco-system to support the space sector

The North East is well known for its entrepreneurialism, collaborative spirit and innovative ideas. The region has seen space sector companies and spin outs from universities flourish through collaboration, innovation and enhancing supply chain opportunities.

Space and satellite applications companies locating to the North East can take advantage of our unique digital and technology network. Our established business clusters and networks provide robust and proven support to help companies innovate, collaborate and accelerate their growth.

Space North East England

Space North East England is facilitated by The North East Space Leadership Group. This group provides the strategic lead and authoritative voice for the space sector in the region, with responsibility for the North East Space Strategy, in developing its capabilities within the UK and global space industry. Members are senior decision-makers and representatives from private and public sector organisations.

Space North East England can support the sector and space companies with:

- Cluster development and networking
- Business engagement
- Collaboration brokerage
- Capability building
- Market animation with end users
- Skills support

Space North East England is based at NETPark, County Durham. It is funded by the Satellite Applications Catapult and the UK Space Agency and the centre works closely with the European Space Agency. This ensures companies working with the centre have access to a wide support network.

The group helps companies to exploit the use of satellite data, technology and applications to gain a competitive advantage in a global market. For example it supports companies to solve problems (e.g., better management of assets, earlier warnings of floods, more accurate information on condition monitoring), all leading to the more efficient use of resources and more market opportunities.

Our region has the vision and the established networks for space companies to grow.

Key support and networking organisations in the region include:



CPI – provides companies with industry-relevant expertise and assets, and proof of concept and scale-up services for the development of innovative products and processes.



High Value Manufacturing Catapult – provides support with local manufacturing needs.



TWI Technology Centre, North East – provides research and development work that covers a wide range of technologies for industry sectors.



Digital Catapult North East Tees Valley – supports projects involving immersive technology, 5G and low-powered wireless wide area network technology.

Find out more about the support and ecosystem in North East England, with the **North East Space Directory**, managed by the North East Satellite Application Centre of Excellence



Cyber North – a regional cluster supporting cyber security applications in satellite communications and other sectors.



Innovate UK – offers funding competitions across a number of relevant sectors.



RTC – offers support programmes such as Supply Chain North East, Scale Up North East and others to assist companies with business support and contacts.



Defence, Science and Technology Laboratory (DSTL) hub located at Newcastle Helix will undertake data science and artificial intelligence related research, and is housed within the NICD, and supported by Newcastle University.

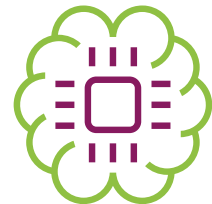
Cross cutting sectors

The space sector is increasingly important in the delivery of next generation digital technologies and products as well as helping to solve some of the most challenging global problems related to climate change, health, security, and disaster management. North East England can support diversification into cross cutting sectors complementary to the space and satellite application sectors.

North East England has expertise with adjacent sectors complimenting the space industry and can support digital technology advancements across a range of disciplines including:



Cybersecurity



Artificial intelligence and machine learning



Precision engineering and advanced manufacturing



Immersive technologies



Data science



Smart cities and 5G



These, and others, have the clear potential to diversify into the space market or adopt satellite technologies. The North East has a solid foundation from which it can bring about the innovations needed for the communication networks of the future. There are capabilities in Radio Frequency (RF), optical communications and cyber resilience – key ingredients in enabling a world which brings together terrestrial 5G or even 6G with satellite communications. This is essential to deliver the backbone that will enable the reimagined future of

ubiquitous connectivity in remote locations; a future that will mean better healthcare, education and exciting developments such as autonomous vehicles. The North East also has innovation assets capable of maximising underutilised space data and technologies in areas such as renewable energy, smart ports, immersive technologies, autonomous vehicles, and life sciences and advanced materials which can exploit microgravity for product development.



County Durham based company, Filtronic working in the Space sector.

Filtronic, is a leading designer and manufacturer of RF to mmWave components and subsystems for mission critical communication networks. Based in County Durham, the company are radio frequency experts who deliver high performance RF solutions into complex markets.

Filtronic works across the space sector and has recently signed a Strategic Partnership and commercial agreement with SpaceX, a market leader in the low Earth Orbit market. The Strategic Partnership includes the ongoing supply of Filtronic’s cutting-edge E-band Solid State Power Amplifiers (SSPA), alongside collaborative efforts in developing and delivering comparable products across multiple frequency bands core to SpaceX’s Starlink platform.

In addition, Filtronic has announced its involvement in a groundbreaking feasibility study aimed at improving and scaling up semiconductor design and manufacturing within the UK. The initiative is part of Innovate UK’s investment of up to £11.5 million in innovation projects to advance semiconductor manufacturing capabilities across the nation. The study paves the way for groundbreaking advancements in semiconductor manufacturing, driving the growth of the UK’s technology industry.

Connectivity

North East England provides direct access to locations worldwide, with flights to major cities and European hubs via Newcastle International Airport. To the south of the region is Teesside Airport which offers additional flights to the UK and Europe.

The three major train stations in the region, Durham, Newcastle and Sunderland. All offer fast and frequent rail links to London (2 hrs 45 mins), Birmingham (3 hours), Manchester (2 hours 30 mins) and Edinburgh (1 hour 30 mins). The Tyne and Wear conurbation benefits from a light rail system with over 60 stations and some of the least congested roads, with an average commute to work of less than 30 minutes.

The region also has excellent digital infrastructure including [Stellium data centre](#) and some of the fastest broadband speeds in England.

Spaceport Scotland

✈️ ⌚ 1hr 5m

Newcastle International
> Aberdeen

Spaceport Cornwall

✈️ ⌚ 1hr 15m

Newcastle International
> Exeter

✈️ ⌚ 1hr 25m

Newcastle International
> Newquay



Soft landing packages

With a range of hubs, office space and hot-desking facilities, the North East offers the perfect landing for any organisation. The region also boasts one and soon to be two Space Hubs, based in Durham, offering soft landing packages for inward investors.



The Space Enterprise Lab at Durham

The Space Enterprise Lab, is part of the North East Satellite Applications Centre of Excellence at NETPark, provides users with access to the latest collaborative technology, resources and expertise.

Businesses can hot desk, take office space or arrange meetings at the lab as well as attend events and network with others within the space community.



Orbit – Durham University

Orbit is open to any science- or technology-focused business, from a start-up looking to grow, or an established company looking for access to first- class facilities.

Businesses locating at Orbit have access to the University's research expertise, support and learning, test facilities and collaborative working opportunities, as well as the opportunity to attend regular workshops and events.

The University's Centre for Advanced Instrumentation is already co-located within the Orbit building, providing easy access to the Centre's instrumentation expertise.

Our service

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 for businesses to the region's network of specialist organisations and individuals with the information, support and advice essential for businesses looking to locate in North East England.

We co-ordinate investment enquiries on behalf of our region's local authorities to ensure businesses are able to make the best decisions based on a wide array of information.

Our team has access to the UK Government, support agencies, sector specialists, universities, colleges, knowledge networks, finance streams and business organisations, helping your transition and move to North East England run smoothly.

Invest North East England supports businesses with a whole range of practical relocation support and advice including:



Advice on availability of land and property and costs



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



Organising visits to the region and meetings with key stakeholders



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

Want to take the next step in locating or expanding your business in North East England, or just need to find out more?

[Get in touch today >](#)



NORTH EAST ENGLAND WORKS.

+44 (0) 7464649579

@InvestNEEngland

Inwardinvestment@northeast-ca.gov.uk

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