

# Furness Advanced Manufacturing Innovation District

DISCUSSION PAPER



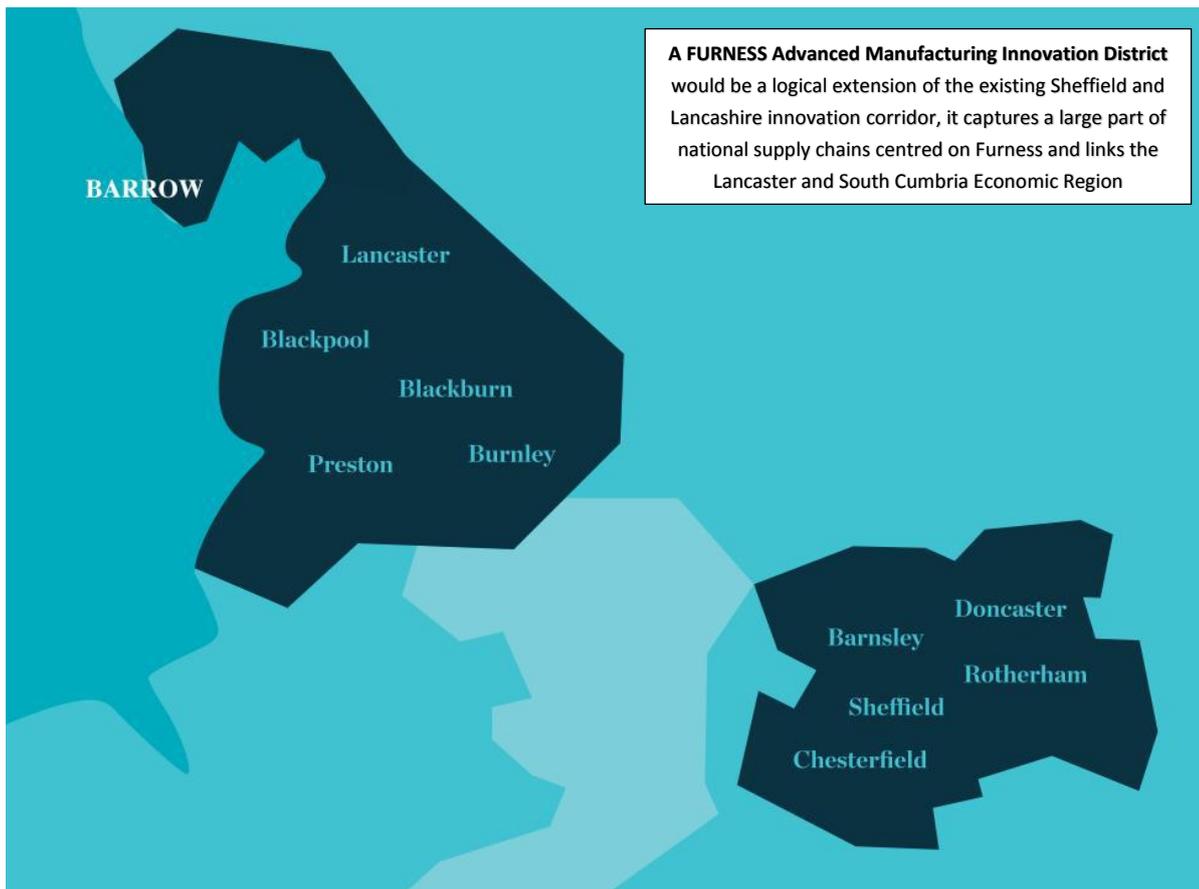
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## INTRODUCTION

This briefing note sets out the potential for making the concept of an “*advanced manufacturing innovation district*” for Furness a reality, it would be a lead factor in transforming the economy.

## A TIE IN WITH THE LANCASHIRE AND SHEFFIELD INNOVATION POTENTIAL

Advanced Manufacturing Innovation Districts are being developed at each end of the Sheffield to Lancashire innovation corridor (Sheffield/Rotherham boundary and Salmsbury, near Preston). FEDF sees that a Furness peninsula based *Advanced Manufacturing Innovation District* is a logical extension of that existing corridor, with future potential to extend north to embrace the Energy Coast facilities at West Lakes Science Park in Whitehaven and Energus in Workington.



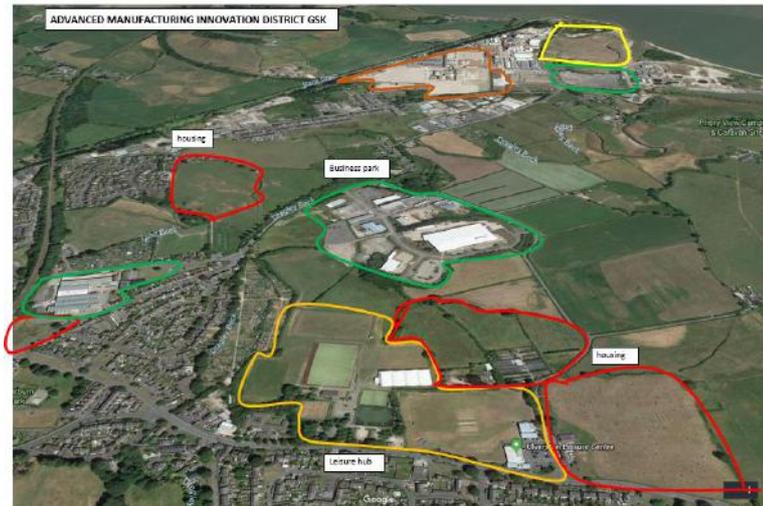
## THE ADVANCED MANUFACTURING INNOVATION DISTRICT

The “*advanced manufacturing innovation district*” could comprise two hubs in Furness, both of which are areas which are undergoing substantial change, land reconfiguration and new investment.

One involves a focus around a “*national endeavour*” to deliver Britain’s strategic nuclear deterrent capability as efficiently and predictable as possible through world class manufacturing operations supported by innovation research and development assets and an extensive national supply chain.

The “*advanced manufacturing innovation district*” could comprise:

- contiguous areas of Barrow centred on ABP Ports estate, BAE Systems, Waterfront, Furness College and Furness Business Park as illustrated on the front cover;
- east/south Ulverston incorporating GSK, Low Mill Business Park, new areas for leisure and housing including the area shown on the next page.



## CONCEPT OF INNOVATION DISTRICTS

Innovation districts bring together large companies small and medium sized companies (smes) with leading research organisations and research and development companies, doing so in ways which avoid the past trend to locate on out of town business parks. They can be seen to emerge as ‘re-imagined urban areas’, often along historic waterfronts, reinventing industrial or warehouse districts undergoing physical and economic transformation to chart a new path of innovative growth

US, Australian, UK and Singapore cities have pioneered the concept of *innovation districts*, areas which seek to attract new research facilities, provide a range of work spaces (including incubation and co-working spaces), create development opportunities to attract new occupiers, and provide new or high-density housing to attract and retain skilled workers.

Fremont, USA which promotes itself as “*a capital for advanced manufacturing ... where stuff gets made... we are a community with a legacy anchored in advanced manufacturing*” which celebrates “*do it yourselves, entrepreneurs, artisans, designers, inventors*” being a good example for Furness to emulate.

Work by the *Brookings Institute* has looked at the role that *innovation districts* play in America, identifying them as anchors for growth. *Innovation districts* result from information and ideas being able to be exchanged more easily as a result of the proximity of different businesses and research institutions.

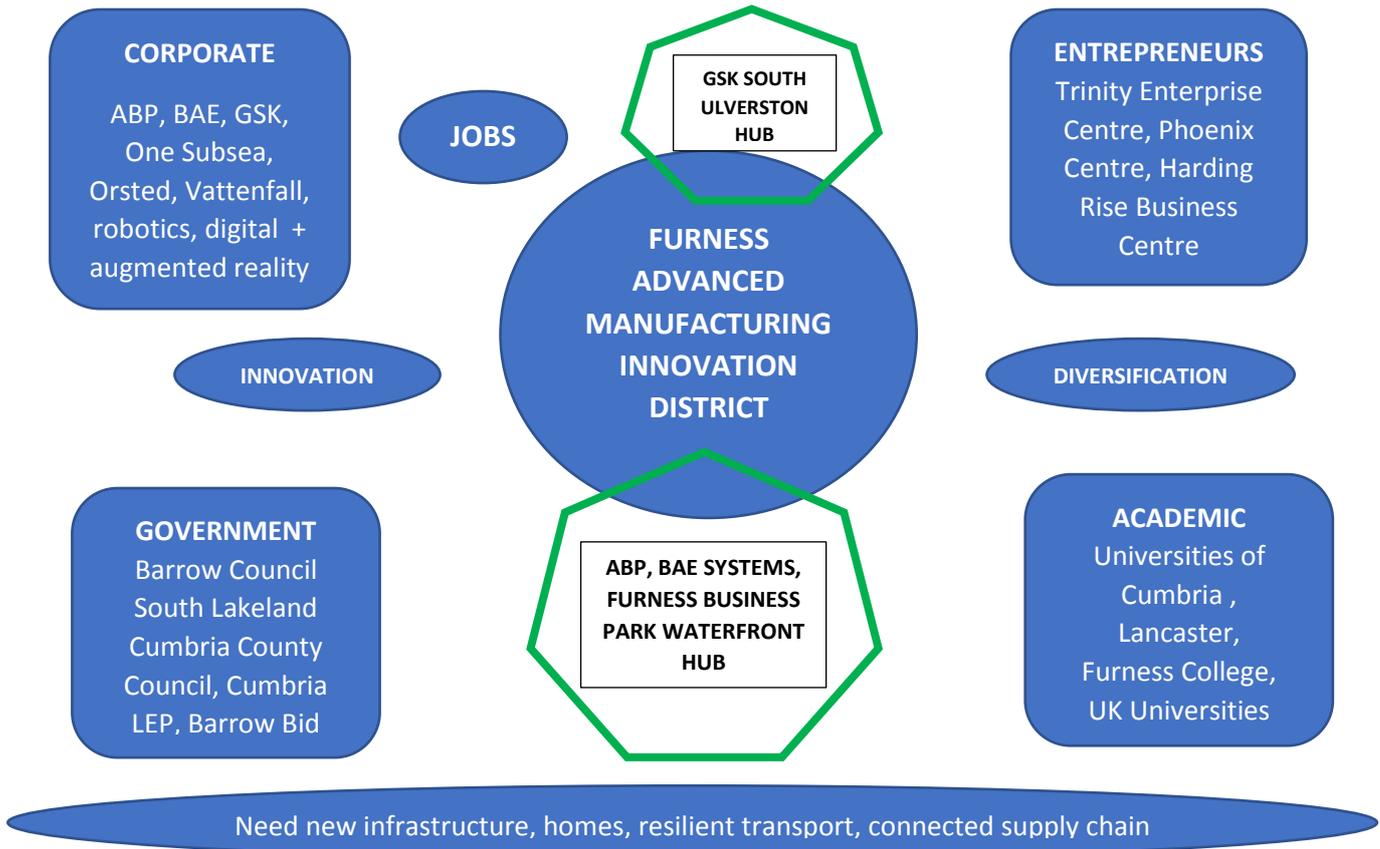
*Innovation districts* involve a move back into or close to city and town centres, where people walk, cycle or travel to work by public transport, and where they share their ideas in, “the hyper-caFFEinated spaces” between the buildings replacing the 1980s and 1990s trend for firms undertaking research and development with highly skilled workforces at out of town business parks.

High densities of knowledge intensive functions in *innovation districts* can enable people and firms to copy, collaborate and compete to generate and commercialise ideas and to boost productivity.

## THE FURNESS CONCEPT

An *innovation district* for Furness will capture and maximise the benefits of knowledge intensive economic activity, jobs clustering, productivity growth and greater social inclusion and mobility in Furness. It would bring together some of our peninsula's most advanced manufacturing, creative and innovative businesses of all sizes, institutions, and people who thrive from proximity enabling ideas and knowledge to be shared and developed. It would also embrace a world class digital shipyard, companies with huge international or national supply chains, digital technology expertise, links to universities, Furness College or research institutes or deliver their own near market R and D.

### ADVANCED MANUFACTURING INNOVATION DISTRICT CONCEPT: BUILD ON EXISTING STRENGTHS



The “*advanced manufacturing innovation district*” capitalises on the strengths of a geographic footprint in which manufacturing has a high share of economic activity, relative to the UK average, delivering **30% of jobs** and **£757m** GVA(2016) which is the highest in Cumbria; it covers an area where **20,000** jobs are present in the three wards covered by the Barrow part of the potential *innovation district*; where over **13,000** people live in **9,000** households of which **3,068** households have no adult in work. It has potential to address deprivation and improving social mobility.

An *innovation district* in Barrow is located either side of the A590 Trunk Road at Furness Business Park, it has potential to be the location for new development at the Waterfront Business Park, within the port estate and at BAE Systems. In Ulverston the GSK site, east Ulverston leisure industrial and housing development potential exists capitalising on pharmaceuticals, electronics, sub-sea technology, software and the canal corridor potential. An *innovation district* could help to facilitate creation and growth of firms, entrepreneurship and inward investment or enable universities to invest. More importantly

Furness is home to around 50 multinational companies many of which like One Subsea and small or medium sized companies such as Fortis Engineering or Structural Science Composites Ltd undertake near market “r and d”. An *innovation district* would embrace world class capability in, for example:

- nuclear submarine technologies;
- subsea technology including subsea factory concepts;
- composites;
- electrical power systems integration;
- pharmaceuticals;
- robotics;
- marine logistics;
- offshore energy operations maintenance and control;
- emerging AI, augmented and virtual reality capabilities;
- excellence in leadership new enterprise and entrepreneurship;
- collaborate across sectors, organisations and disciplines to deliver new skills development, service, manufacturing, export and diversification opportunities.

The *innovation district* area has **2** lifelong learning hubs, **3** managed business centres, **1** contractors’ hub.

At a time of economic uncertainty, social inequality and potentially post Brexit global opportunity an *innovation district* could help expansion of job, educational and social mobility opportunities for people residing in deprived neighbourhoods in Barrow and East Ulverston which the proposed district embraces, it would also help to stimulate skills and career aspirations amongst young people as well as creating potential for new attractive living working and recreational spaces, new and refurbished housing, space for research and learning, and new amenities.

The *innovation district* would stimulate investment in the environment, air quality, heritage conservation and tourism including business tourism. An *innovation district* could be an exemplar for sustainable development incorporating access to the emerging new national coastal pathway and coastal attractions that Art Gene and others are encouraging greater access to by local people or new locally based low carbon energy systems located at the Rampside Road Energy Opportunities Area. The Universities of Cumbria and Lancaster together with bodies such as Brathay Trust could be involved in developing excellent leadership and management skills, complementing Furness College and the BAE SYSTEMS Training Academy and business support for new enterprise and entrepreneurship. Access to new high and low density living in the central wards of Barrow giving walkable or public transport-based access to work. Increased business tourism could give visitors and insight into “*the things we make*” in Furness, perhaps appealing to mass tourism visitors to the Lake District.

### **A POTENTIAL FLAGSHIP FOR THE LEP LOCAL INDUSTRIAL STRATEGY AND BUSINESS TOURISM**

The *innovation district* concept may also be a way of helping establish wider national recognition of Cumbria as a centre for high value manufacturing energy pharmaceuticals and digital technologies with supporting supply chain services delivering significant benefit to the nation. It could also help deliver distinct aspects of *Cumbria LEP Industrial Strategy* and at local level further *Furness Economic Development Forum Delivery Plan 2018-2023* priorities for infrastructure, education employment & skills, business support and social inclusion /quality of life. Lastly it also knits together proposals included in masterplans for ABP Holdings and BAE SYSTEMS estates, and the Marina Village and Barrow Town Centre Masterplans which include housing renewal.

A range a short-term action over the next nine months are identified within this briefing, which are aimed at working with partner organisations to develop the concept further.

## THE CASE FOR A FURNESS ADVANCED MANUFACTURING INNOVATION DISTRICT

Furness would build on existing strengths, research, education, enterprise - it is already benefitting from:

- Being the **third fastest growing economy in GB**, the fastest growing coastal economy in GB measured by GVA per head 1997-2015 according to Social Market Foundation;
- **30% of jobs in advanced manufacturing**;
- **some of highest wages** in the Northern Powerhouse area, being one of four top areas for male wage rates, major companies have grown jobs;
- **£1.2bn "r and d" spend** of its largest employer totals over 5 years;
- Many Knowledge Intensive Private sector jobs;
- Innovation is extensive within companies;
- There is emerging commitment to new investment by several blue-chip companies.

Furness already has significant assets such as

- **Digital shipyard** with its specialisms;
- **Training Academy** and SMITE facility's R and D / Test centre;
- **Submarine Delivery Agency** and
- **Submarine Alliance partnerships** with BAESYSTEMS Babcock, Rolls - Royce;
- **Subsea electronics** and subsea factory R and D,
- **Robotics**, links to Warwick University;
- **Embedded company-based expertise in augmented and virtual reality**;
- **Submarine rescue**, Serco, James Fisher;
- **Offshore Wind Hub/Control Centre**; Orsted, Vattenfall, MHI Vestas, Siemens Gamesa;
- **University/College Hub at Furness Business Park** and industry's UK wide university links
- **Waterfront, Port, Furness Business Park arc** – company capabilities and sites for supply chain growth;
- **GSK Ulverston - site anchored with GSK advanced manufacturing** for supply chain growth
- **FGH teaching hospital** and new **Duke Street Barrow Health Centre**;
- **Housebuilding sites choice** with new momentum Marina Village, Barrow + south Ulverston;
- Universities of Cumbria, Lancaster, Salford, UCLAN, Warwick links to exploit;
- **Holiday Inn Express Hotel Investment** underway;
- **Art Gene, The Forum, Cultural, tourism, landscape** attractions;
- **Proximity to the Lake District World Heritage Site**;
- **gliding , water sports**, coastal landscape attractions.

## THE AREA IS SET TO BENEFIT FROM MAJOR CURRENT AND FUTURE INVESTMENTS

An *innovation district* in Furness provides an opportunity for further expansion on land freed up by GSK in Ulverston, the new business park at the Waterfront and land at the Port in Barrow. More importantly it can help ensure the peninsula makes the most of its existing leading-edge facilities, functions and steer development to sites within it thereby bringing brownfield land and underused buildings back into use and more jobs into areas where historically deprivation has been a key challenge.

Furness College/University campus, its Advanced Manufacturing Centre will provide a place where businesses and other external organisations looking to innovate, be more productive can grow or access the College and the University's capabilities and talent. The Centre will be a hub for the growing digital and innovation community in Furness, creating new jobs and investment. At BAE Systems its new Training Academy delivers workforce and potentially supply chain partner training.

## MAIN OPPORTUNITIES

Delivery of an *innovation district* in Furness could stimulate a coherent approach to:

- **Supporting economic growth** – leveraging the benefits of a cluster of world class research activities and facilities, and organisations that are at the forefront in innovation in public services to create opportunities for business start-ups, growth and investment;
- **Master-planning, public space, access and movement** – to link the area together, integrate it with the rest of the towns of Barrow and Ulverston and attract investment, talent, and new companies;
- **Promoting Furness as a location for inward investment**, providing a clear and attractive destination for investment, and strengthening our existing offer;
- **Creating an exemplar for smart, sustainable growth** in the modern knowledge economy, a place that can inspire young people, and spaces that become a greater part of the civic life of the peninsula;
- **Enhancing development value** – enabling Councils to secure development finance and capital receipts
- **Innovation synergies** – encouraging companies to work together

## DEVELOPMENT OPPORTUNITIES

Potential development opportunities as part of an *Innovation District* could include:

- New manufacturing, engineering, digital augmented, virtual reality, design, robotics investment;
- teaching and research space;
- Manufacturing innovation space;
- The modern office accommodation for private sector organisations and at Harding Rise, Barrow that is already planned;
- A range of office space, including incubation facilities, grow-on space, and space suitable for larger occupiers who value proximity to the universities, hospital and Council;
- Hotels and accommodation, New or improved cultural and conferencing venues;
- Residential development aimed at graduates and embedding skilled workers in the peninsula;
- New and improved public spaces

## BUSINESS GROWTH AND INVESTMENT

The *Innovation district* concept would be more than just a physical development scheme it would stimulate:

- Sector growth in civil and defence nuclear, energy, rail, subsea systems, renewable energy technologies, health informatics, shipbuilding, manufacturing, tourism;
- support for businesses that are seeking to spin out of industry or nearby and national universities or links to grow on space elsewhere in Furness. This support could include facilitating the building of peer networks, mentoring, and access to finance;
- Promoting the *innovation district* as a location for investment. This would need to go beyond branding and marketing activity. It should focus on developing specific investment propositions around the ideas and expertise within Furness as well as the property investment opportunities;
- building on the position of Furness as a centre of expertise for advanced manufacturing, energy, health innovation, and digital. These sectors have been identified in the *Northern Powerhouse Independent Economic Review* as four areas where the North has “*Prime Capabilities*” in terms of economic strengths.

Success in implementing this vision will be demonstrated by:

- more rapid adoption of new technology by the existing industry base, particularly SMEs
- greater proportion of businesses led and managed at the highest level
- increased rate of formation of innovative new companies, and enhanced growth of existing businesses
- Extent to which the made smarter pilot support is taken up
- inward investment by multinational manufacturing companies at the technological frontier
- broad skills base, talented people attracted to and retained in the region
- growing high value services sector in support of manufacturing
- enhanced regional export performance and international collaborations
- significant and measurable improvement in productivity outcomes across our advanced manufacturing sectors and throughout the regional economy

**BRANDING AND IDENTITY**

The branding of the district will need to be carefully considered with partner organisations.

**POSSIBLE INTERVENTIONS SHORT TERM MEDIUM TERM LONG TERM**

**POTENTIAL NEXT STEPS**

<b>Within 2-3 months</b>	<b>Within 6 months</b>	<b>Within 9 months</b>
Refine the outline proposal	Produce an outline business case / proposition to set out the detailed work	Appoint team to drive project forward
Secure formal approval the work together on this concept from the relevant organisations	Specify programme, investment and capacity needed to make an <i>Innovation District</i> a reality	Identify the specific first stage investment opportunities
Form working group with clear terms of reference;	masterplan sets out how the estates plans of relevant organisations	Develop an identity and brand; and launch
initial scoping work on the spatial vision and master planning framework	<i>Innovation District</i> will be connected seamlessly to the wider peninsula	
scoping work on how an <i>Innovation District</i> could boost economic growth in Furness/Cumbria		
consultation and engagement plan		

Cumbria's proposed advanced manufacturing innovation district in relation to Glasgow, Leeds, Sheffield



FURNESS ADVANCED MANUFACTURING INNOVATION DISTRICT



# BARROW ADVANCED MANUFACTURING INNOVATION DISTRICT





Business centre

University college Knowledge Hub

Access Nodes

Tourism Hub

BAE Campus Area

Operational R and D area

Business Park

Offshore Wind Hub

# ADVANCED MANUFACTURING INNOVATION DISTRICT

**BARROW'S ADVANCED MANUFACTURING INNOVATION DISTRICT** INCLUDES OPERATIONS OF CORE COMPANIES OF BAE SYSTEMS, ORSTED, VATTENFALL, CENTRICA, ONE SUBSEA, ABP, KNOWLEDGE HUBS AT BAE SYSTEMS, FURNESS COLLEGE AND INDUSTRY BASED R AND D FACILITIES. IT INCLUDES THE PORT, BAE SYSTEMS, FURNESS BUSINESS PARK, EMBRACES BARROW ISLAND VILLAGE RETAIL AREA, MARITIME APARTMENTS, IS CLOSE TO MARINA VILLAGE AND ADJOINS BARROW TOWN CENTRE (FOR WHICH MASTER PLANS ARE BEING DEVELOPED).

20,000 JOBS ARE BASED IN BARROW ISLAND, HINDPOOL & CENTRAL WARD'S COVERED BY THE ADVANCED MANUFACTURING INNOVATION DISTRICT. THE 13,070 RESIDENT POPULATION IN 9,913 HOUSEHOLDS INCLUDES 3,068 HOUSEHOLDS WITH NO ADULT IN WORK

**WHAT IS AN ADVANCED MANUFACTURING INNOVATION DISTRICT?**

Innovation Districts bring together leading research institutions such as universities and R&D companies with large firms and small start-ups in well connected, mixed-use, urban locations. These are attractive places to live, work, play and do business. This marks a shift away from the past few decades where companies chose to, or were encouraged to, locate in out-of-town business parks.

This first inland urban 'smart' model, often found near or along waterfronts, is where industrial or warehouse districts are undergoing a physical and economic transformation to chart a new path of innovative growth. This change is powered, in part, by transit access, a historic building stock, their proximity to downtown, which is then supplemented with advanced research institutions and anchor companies.

<https://www.cornell.edu/urban-innovation-districts/>  
<http://www.manufacturinginnovationdistricts.com/>  
<http://www.bae-systems.com/advanced-manufacturing-hub/>

*"the dreadnought programme is truly a national endeavour employing some of the brightest engineers and scientists in the country"* GAVIN WILLIAMSON MP, SECRETARY OF STATE FOR DEFENCE

- SHIPYARD WORK DELIVERS £4.2m GVA by 2037
- 9,000 SHIPYARD JOBS at core
- SHIPYARD £1,102M R & D SPEND in last 5 years
- 160 ACRE WORLD CLASS MANUFACTURING SITE
- as many as 100,000 TRAINING ACADEMY
- FUTURE INVESTMENT
- HOLIDAY INN EXPRESS 127 BEDS TOWN CENTRE
- WATERFRONT BARROW 23 HA BUSINESS PARK
- ENTREPRENEUR ZONE L10 PARTNERS
- 3 MANAGED BUSINESS CENTRES
- UNIVERSITY + COLLEGE KNOWLEDGE HUB 5000 STUDENTS
- FURNESS BUSINESS PARK BASED SUPPLIERS
- COMMITMENT TO REINVOIGRATE TOWN CENTRE
- TOURIST RETAIL HUB SUPPORTS 4,000 JOBS
- 4-600 MARINA VILLAGE NEW HOMES
- WATERSPORT RECREATION
- WINDFARM D AND M HUB: DIVERSIFICATION POTENTIAL

