

Innovation & Investment in Energy Process Industries



Regional Development
Agency



Key Facts and Overview

- The North East Process Industries have a vision to be Europe's best cluster for process development, engineering and scale-up - delivering innovation, process improvement and manufacturing excellence across the full breadth of the process industries.
- There are over 430 companies working in the process industries in the North East in markets including chemical, pharmaceutical, speciality and biotechnology employing 40,000 people, creating £10bn of sales, 35% of UK pharmaceutical GDP, and forming 58% of the UK petrochemical industry.
- Key companies include SembCorp Utilities, SABIC, Dupont Teijin Films, Proctor and Gamble, Ensus and Invista with another 500 companies involved in the supply chain.
- Tees Valley is home to large scale energy intensive industries with the UK's largest petrochemical complex and Europe's most extensive hydrogen network with significant opportunities being developed for carbon capture and storage and distributed energy. It also has the multi occupancy Wilton Technical Centre and the largest UK chemical handling port.
- There has been over £1bn of process industry investment in the last twelve months. Over £7bn of planned investment is in the pipeline with the potential to create 8,000 new jobs. North East England has the largest biomanufacturing investment in the world in 2003-2004 (Avecia £70m), Europe's largest biofuels complex (Biofuels Corporation £38m) and the world's largest low density polyethylene (LDPE) manufacturing facility will be complete in 2007 (Huntsman £200m).



Research

- Leading research at Newcastle and Durham Universities have either the maximum 5* or 5 (world-class) Research Assessment Exercise (RAE) rated research in: applied mathematics, biological science, chemistry, chemical engineering, electrical & electronic, general engineering, mechanical & manufacturing, physics, medicine and key activity in pharmaceutical, pharmacology and analytical sciences.
- Strategic research platforms in the region with multicompany collaboration are attracting new industries to the region. Accessible technologies include microtechnology, super-critical fluids, flexible polymer electronics, hydrogen fuel cells, batch to continuous processing, bio-processing, chiral synthesis, oxidations, reductions, pharmaceutical R&D, clinical trials. Significant investment in market facing technology development facilities by the private and public sector over the last three years has established new national centres including the National Industrial Biotechnology Facility, the National Nanoparticulates Centre, National Plastic Electronics Technology Centre and the National MicroFluidics Centre.
- Industry driven training programmes have been developed in particular with Teesside University and local colleges.



Case Study - SABIC

The Saudi Basic Industries Corporation (SABIC), which was originally established in 1976 by the Saudi Arabian government to add value to Saudi's natural and plentiful hydrocarbon resources. Today, SABIC is among the worlds leading petrochemicals companies, both in terms of sales and production diversity. The company is headquartered in Riyadh, the Saudi Arabian capital, and is the Middle East's largest non-oil industrial company. SABIC acquired the SABIC UK Petrochemicals operation at the end of 2006 and it represented a very significant step in SABIC's ambitious European growth plans. SABIC UK Petrochemicals has major manufacturing assests at the Wilton International Site (Olefins and Paraxylene) and also at the North Tees Site (Aromatics) – as well as extensive storage, distribution and logistics facilities across the region.

Passionate
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north east
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Industry Support

Organisation

Role in the Development of the Industry

North East Process Industry Cluster (NEPIC)	Membership of over 500 process industries companies in the region. Focused on technical and business development. Over 80 industry specialists leading programs and activities to deliver an industry driven investment framework in skills, business development and marketing.
Centre for Process Innovation (CPI)	CPI delivers market-focused innovation services built around process technology platforms covering new products, new processes and new energy. CPI maintains a knowledge of the process sector's innovation needs and runs programmes to support meeting them. It operates with industry, to maintain strategic capabilities in the region that are fundamental to the competitiveness, sustainability and investment proposition of the sector.
Process Industries Centre for Manufacturing Excellence	Tasked with improving productivity within the UK process industries.
NEPA	Established to improve productivity and competitiveness in the regional process industries.
National Skills Academy for the Process Industries	Newly established national skills centre providing an employer led skills and training academy located at Teesside University.
Wilton Technical Centre	40 global companies and 600 staff in one of the largest process industries R&D facilities in Europe.
NetPark	A new strategic site to exploit developments in novel electronics and advanced materials with infrastructure including a research centre, business incubator and PeTEC the National Plastic Electronics Technology Centre providing a high-tech R&D/prototyping/manufacturing location.
Supply Chain	Key regional areas of activity: oil & gas, petrochemicals, base chemicals, inorganic chemicals, polymers, catalysts, flavour & fragrance, materials and coatings, colour & pigments, consumer products, paints & coatings, pharmaceuticals, biotechnology.

Key Opportunities

The region is investing in technology areas where the NE based companies are able to capture a particularly large share of value. We have provisionally identified four such areas:

- Building on our bioprocessing expertise to work with the biofuels supply chain and provide the launchpad for selected moves into biorefining;
- The NE has extensive skills, industrial experience and infrastructure in hydrogen and is playing a lead UK role in developing a hydrogen economy. This builds on existing infrastructure and capacity on both hydrogen, storage and fuel cell development, and on projected investments such as the heavy oil upgrader;
- Novel materials and their manufacture are being developed, with the North East leading the UK on the development of a plastic electronics capability. The distinctiveness of the NE is in both materials and the processes to make them – integrated together;
- New infrastructure is planned for the development of a low carbon industry to capture and store carbon and develop industrial integrated energy systems. These innovative propositions are being worked up with both the power generation and process industries.

The region is exploiting the move to downstream added value process technology with formulation science, measurement and design strengths being utilised across a range of market applications. Pressure for progress towards sustainability is a key factor underpinning all of the areas highlighted. We are continuing to identify further such areas e.g. organic photovoltaics and underground coal gasification.

Contact Details:

To discuss the service further, or to receive an initial response to an investment proposal, please make contact by phone, e-mail or post today.

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