

# 7

## Innovation in England



# KEY FACTS

RDAs spent more than £1 billion on innovation from 2005/6 to 2007/8 through support for innovation infrastructure and business innovation

RDA programmes helped more than 8000 businesses to work with the knowledge base, helping to turn new ideas and technologies into commercial products and services.

RDAs have worked in partnership with DIUS on business support simplification resulting in seven simple and effective products for innovation support.

## 7.1 Supporting Regional Innovation

Innovation is a key driver of economic performance at both a local and a regional level and on a wider national and global scale. Each region is affected not just by local policies and conditions but by wider national and international policies. *Innovation Nation* described how Government, Devolved Administrations, RDAs, universities, local authorities and other public bodies develop and implement innovation policies appropriate to different places. Progress on the specific commitments made there is as follows:

- Strong progress has been made in aligning £180 million of **RDA expenditure** between 2007/8 and 2010/11 with that of the Technology Strategy Board including establishing permanent governance arrangements, mapping all relevant activity and aligning strategic plans. The recently announced Low Carbon Vehicles Integrated Delivery Innovation Programme is an example of joint funding with Advantage West Midlands and One NorthEast contributing to a £100 million programme.

- NESTA will include regional and sub-regional innovation measures in their **Innovation Index** to be produced in 2009
- The first **multi-area agreements** giving groups of local authorities the means to develop innovative ways of tackling complex problems were announced in July 2008 covering Greater Manchester, Leeds and Tees Valley among others.
- DIUS will shortly commission research on the detailed geographical patterns of innovation to yield a **UK Innovation Map**, complementing NESTA's work.
- The prospectus for **New Partnerships for Innovation** will bring together venture capital, universities, business and regional partners

The six **Science City** partnerships of RDAs, local authorities, universities and businesses act as a locus for a range of science and innovation activities. Recent highlights of their activities include:

- Birmingham universities' joint research projects into technologies for the future have supported a hydrogen fuel cell-powered demonstrator home
- Bristol is piloting innovative STEM models in schools connecting arts and sciences
- The Innovation Manchester programme has engaged over 70 business leaders in improving innovation
- In Newcastle, universities and businesses are co-located with world-class innovation support facilities in Science Central and the Innovation Machine
- Nottingham Trent University is leading Nottingham's Games City, a public engagement programme celebrating Nottingham's digital economy
- In York, Park Central in the heart of York Science Park provides an informal and convenient environment for business people and researchers to meet and share ideas

The two **national science and innovation campuses** – Harwell and Daresbury – host fundamental scientific research and facilities of national importance and also generate benefits for their respective regions: the South East and North West respectively. In July this year, DIUS announced a £65 million capital contribution provided through the Large Facilities Capital Fund (LFCF) to finance a world-leading computer sciences centre and a research facility to develop detector systems at the Daresbury Campus.

The MoD Centre for Defence Enterprise was established in April 2008 at Harwell to provide stronger engagement with non-defence research suppliers, particularly academia and SMEs. It is positioned to capture new ideas and technology growth from new suppliers feeding into MoD's military capability and constitutes MOD's contribution to the pilot for the reformed SBRI scheme (see 6.1)

The Technology Strategy Board, working with the RDAs and DAs is supporting 23 micro and nanotechnology centres across the UK, providing dedicated open access facilities to assist the exploitation of the commercial potential of developments in nanotechnology.

The UK Centre for Medical Research and Innovation is a planned new medical centre at Kings Cross in London that will bring together science teams from the Medical Research Council's National Institute for Medical Research, the Cancer Research UK (CRUK) London Research Institute and University College London (UCL). It is expected to open in 2014.

**Table 4. Regional statistics**

Region	Population (2006) million	Economy (GVA for 2006) £ billion	Business Enterprise R&D (2006) £ million	Higher Education Institutes (2007)
East of England	5.6	110	3,570	9
East Midlands	4.4	74	977	9
North East	2.6	39	293	5
North West	6.9	111	1,627	15
London	7.5	197	980	41
South East	8.2	177	3,279	16
South West	5.1	90	1,316	13
West Midlands	5.4	89	933	12
Yorkshire and the Humber	5.1	82	386	12

Sources: ONS, HEFCE



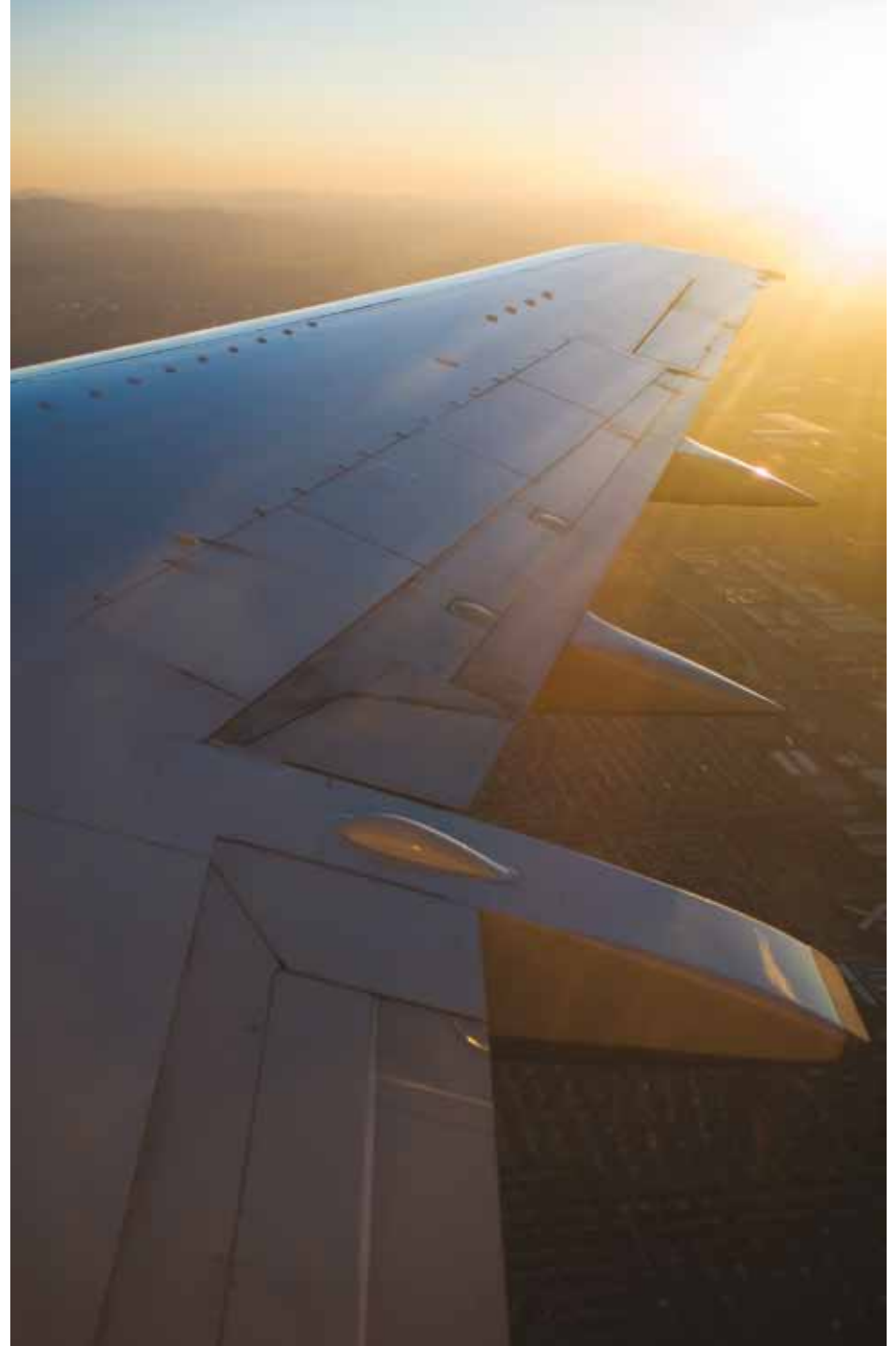
**Daresbury Science and Innovation Campus**  
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# CASE STUDY

## NEXT GENERATION COMPOSITE WING PROGRAMME (NGCW)

The NGCW programme makes mature technologies available for the design, development, validation, manufacture, equipping and testing of lightweight aircraft wings. These are aerodynamically efficient and low cost and are optimised with the overall aircraft to ensure minimum environmental impact.

The programme value is £103 million with half the money coming from industry and half from the public sector. Airbus is contributing £25 million and 16 other partners £25 million in a series of projects. The Technology Strategy Board is contributing £25 million and the Regional Development Agencies and Devolved Administrations £26 million with funding from the Welsh Assembly Government, Scottish Enterprise, SWRDA, AWM, EMDA, SEEDA, NWDA, EEDA and Invest Northern Ireland.



## 7.2 Regional Development Agencies

Figure 21. RDAs



The nine Regional Development Agencies (RDAs) in England (Figure 21) provide strategic economic leadership to drive sustainable economic development. The Regional Economic Strategies set the strategic framework for investment in the region. Innovation is recognised as critical to driving business and economic growth, competitiveness and sustainability.

RDAs bring together partnerships with the public and private sectors to mobilise activity. They use their strategic influence and investments to mobilise the resources of others to meet shared challenges. Each region also has a business-led Science and Industry Council with leading figures from both the public and private sectors to influence the agenda regionally and nationally.

RDAs will continue to lead and invest in innovation throughout the current economic slowdown to enable regional economies to emerge at the forefront of the economic revival. The RDAs themselves also need to continue adopting increasingly innovative approaches to developing and delivering programmes to support business.

Working together, the RDAs and DIUS have simplified business support products for innovation. These were announced in October 2008 and will be formally launched by March 2009. The main innovation support products are:

- Networking for Innovation
- Innovation Vouchers
- Knowledge Transfer Partnerships

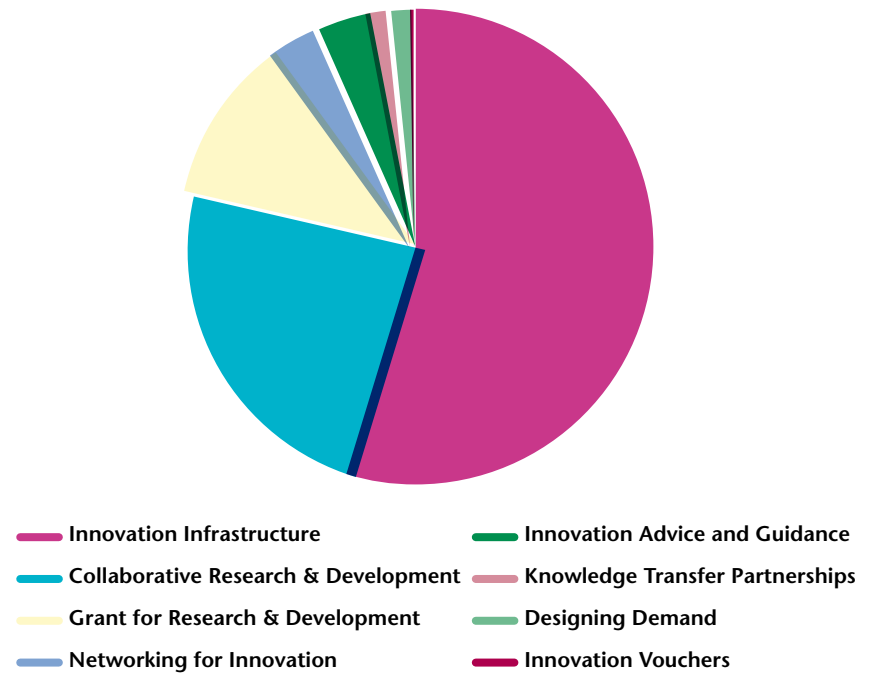
- Collaborative Research and Development
- Grant for Research and Development
- Innovation Advice and Guidance
- Designing Demand

In 2007/8 it is estimated that the RDAs spent over £260 million on innovation infrastructure and schemes similar to the seven innovation products (Figure 22). By far the largest expenditure on innovation by RDAs is to create the infrastructure required to support innovation, which includes campuses, demonstrators and facilities.

Including expenditure on innovation support from RDA enterprise, finance and skills programmes it is estimated that the total RDA spend on innovation has exceeded a cumulative total of £1 billion between 2005/6-2007/8. In 2007/8, RDA programmes:

- assisted over 250,000 businesses to improve their performance, including more than 8,000 businesses that were assisted to engage in new collaborations with the knowledge base
- created or safeguarded over 125,000 jobs
- created over 56,000 new businesses
- assisted over 350,000 people to improve their skills

Figure 22. RDA estimated Spend on Innovation by category 2007/8



# ADVANTAGE WEST MIDLANDS (AWM)

The focus for innovation in the West Midlands “Connect for Success” Strategy is: *Transport and Advanced Materials* supporting the large manufacturing base, *Energy and Medical & Healthcare Technologies* exploiting the strong knowledge base in the region, and *Digital Media* promising new business opportunities derived from creative talent and ICT expertise.

Within the Science City collaborative programme led jointly by the universities of Birmingham and Warwick, AWM has invested £6 million in hydrogen fuel cell activity and committed £20 million in materials development, a further £9 million for energy efficient technologies and over £20 million for clinical trialling and experimental medicine facilities.

Aligned with the Innovation Platforms driven by the Technology Strategy Board, AWM has invested £5 million in the final phase of the Premium Automotive R&D programme at Warwick University and committed

£30 million in Low Carbon Vehicles, £5 million in a test facility supporting Intelligent Transport Systems and over £2 million in demonstrators for Assisted Living. Complementing these programmes, AWM with Qinetiq, have invested £4 million out of a £10 million investment programme for exploitation of sensors.

AWM is intending to invest over £30m with emda in the Manufacturing Technology Centre at Ansty, Coventry where manufacturing companies, key midlands universities and TWI will radically improve manufacturing and joining processes.

AWM with Channel 4 launched a £10 million West Midlands 4iP fund for digital media generation, complementing investments of over £4 million in the Serious Games Institute at Coventry University and £7.6 million in the Warwick Digital Laboratory.

[www.advantagewm.co.uk](http://www.advantagewm.co.uk)



*Birmingham Science City – hydrogen fuel cell powered vehicle as part of Hydrogen Energy programme*



[www.advantagewm.co.uk](http://www.advantagewm.co.uk)

# EAST OF ENGLAND DEVELOPMENT AGENCY (EEDA)

We:

**Create the conditions to stimulate innovation.** We develop physical environments that enable small and large businesses to co-locate, share ideas, stimulate innovation and increase the chance of commercial success. Examples include a £4 million investment in Colworth Science Park, a collaborative community with Unilever, and a £1 million investment in establishing a regional centre of excellence for engineering at Hethel.

**Build success by investing in the region's knowledge sectors** (Energy and Environment, Life Sciences and Healthcare and Creative Industries). Examples include a £6 million investment in OrbisEnergy. EEDA's hub for renewable energy will enable the region to capitalise on its vast natural energy resources and assist businesses to seize opportunities in the sector. EEDA's £4 million investment in EPIC has transformed the studios to position EPIC as a state of the art production and new media centre.



**Provide regional leadership,** building partnerships and influencing stakeholders to deliver regional and national innovation strategies. EEDA is piloting an Innovation Vouchers scheme and is collaborating with the Technology Strategy Board and the Strategic Health Authority to launch the first regional SBRI programme.

EEDA's projects will create 5000 new jobs, anchor major corporations to the region and increase the survival rate of SMEs.

[www.eeda.org.uk](http://www.eeda.org.uk)



# EAST MIDLANDS DEVELOPMENT AGENCY (EMDA)

The East Midlands Innovation Strategy and Action Plan (2007 – 2010; [www.eminnovation.org.uk](http://www.eminnovation.org.uk)) is a £20 million investment programme to promote and support innovation through partnership and collaboration. It is implemented through a coordinated range of products and services that target organisations in four priority sectors: **healthcare & bioscience, food & drink, sustainable construction and transport equipment**. The aim is to raise innovation performance through:

- Building networks for knowledge exchange – Business led **Innovation Networks** (iNets) support the priority sectors aiming to increase the frequency and quality of interactions between business and the knowledge base
- Providing high quality innovation support – Sector specific iNet advisers offer innovation IDB and access to tailored services eg **Innovation Support Grants**, helping businesses turn ideas into new products and services

- Creating an effective environment for innovation – providing appropriate innovation facilities such as **BioCity Nottingham**, UK's largest biosciences incubator. Showcasing the region's talent and creativity, in 2008 the annual **iFestival** staged over 158 events attracting over 60,000 people
- Exploiting new technologies – The **£6 million East Midlands Technology Framework** prioritises five technology areas and targets support through Demonstration Grants which translate university based technology into business relevant applications and Pathfinder Grants which help SMEs with the market validation of new ideas.

[www.emda.org.uk](http://www.emda.org.uk)



*Laser Lab at Nottingham Trent University*



# LONDON DEVELOPMENT AGENCY (LDA)

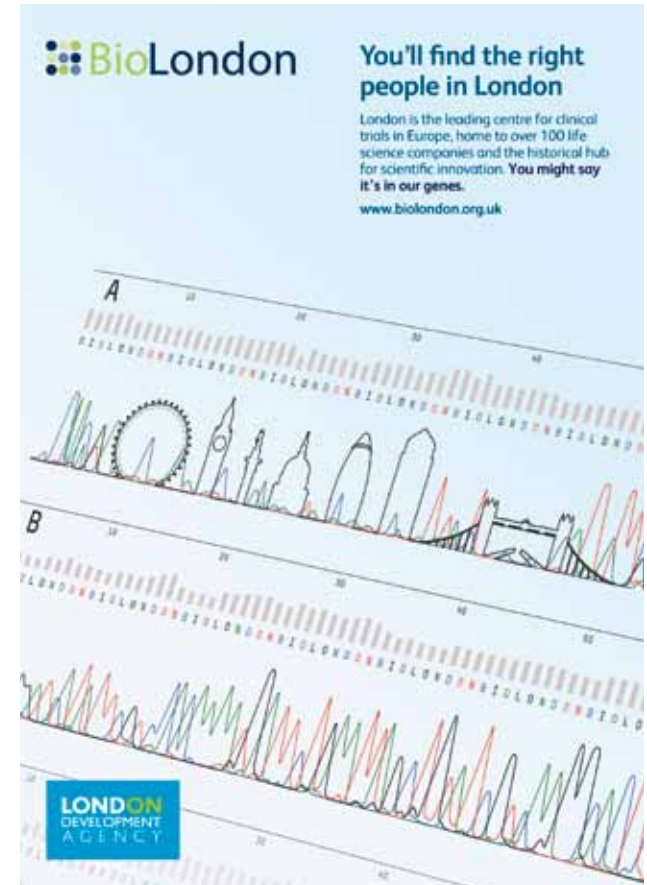
The LDA has invested in innovation support, particularly for SMEs, through schemes such as Designing Demand and Knowledge Connect and has also provided key knowledge assets for SMEs such as The London Innovation Map and the British Library Business & IP Centre.

In July 2008, **Knowledge Connect** commenced putting in place region-wide infrastructure that allows SMEs access to the whole knowledge base. The project will provide innovation vouchers to support up to 1,600 businesses to collaborate with the knowledge base. This project builds on previous knowledge transfer investments such as **Secondment into Knowledge** which secured net additional GVA of £21.8 million through productivity gains from an investment of £750,000.

Since its launch in 2007 **The London Innovation Map** ([www.londoninnovationmap.com](http://www.londoninnovationmap.com)) has had over 100,000 hits from individuals looking for instant access to information on the innovation support available in the capital.

The **ATcare Design and Development Centre**, funded by the LDA, aims to bridge the gap between research in universities, the NHS, SMEs and the marketplace, such that real user requirements can be assessed and met. Also a new **Centre for Low Carbon Technology in Buildings** will open in June 2009 through a joint LDA-funded programme. It will be based at London South Bank University (LSBU), and help put London at the forefront of the fight to tackle climate change.

[www.lda.gov.uk](http://www.lda.gov.uk)



# NORTH WEST REGIONAL DEVELOPMENT AGENCY (NWDA)

The Northwest promotes collaborative innovation and there are two exemplar facilities within an overall regional support network including Business Link, Innovation Advisors, UKTI and Inward Investment services.

**Daresbury Science and Innovation Campus** is a public-private-academic partnership designed to deliver critical mass in science, research and business support.

Initiated by the NWDA and STFC, it represents a fundamentally new approach to driving UK competitiveness in global science and innovation. The co-location of knowledge-based businesses, world-class research and three major universities creates an initiative to maximise the effects of public investment on business-science collaborations.

Housing over 70 businesses, the Daresbury Innovation Centre has exceeded all delivery targets and the Campus has achieved



*Visualisation of MediaCityUK with the BBC at the centre*

£25 million of private and £50 million of public investment.

**MediaCityUK**, the most significant media development in Europe, will see the creation of a 'media city' for the world's leading creative and digital businesses fully exploiting the benefits arising from the BBC's relocation.

The NWDA has played a key role in brokering over £3Bn of private-public investment which will provide a shared service environment with state of the art operating systems where media corporations exist alongside independent producers, developing innovative ways of doing business and delivering future content.

High level research involving leading international institutions will fully exploit the opportunities within this unique environment. Salford University will be co-located to develop new talent and drive knowledge transfer, innovation and enterprise.

[www.nwda.co.uk](http://www.nwda.co.uk)



# ONE NORTH EAST (ONE)

Innovation is at the heart of North East England's economic strategy. Over recent years, the region's economy has made significant progress, with strong overall growth and increases in business formation and exports. Science and technology based businesses and investment have been central to this transformation.

The region has invested significantly in major infrastructure to enable innovation by business in new strengths such as renewable energy and new materials. In the last 12 months, working with partners, including the Technology Strategy Board, we have developed and opened major facilities such as the Printable Electronics Technology Centre (PETEC) national prototyping centre (a £20 million joint investment), the £12 million National Industrial Biotechnology Facility at Wilton Centre and the Extreme Technologies Centre

a £3 million investment as part of Newcastle Science City. The region will be taking this work forward with additional support of £135 million investment in innovation from the European Regional Development Fund to run from 2007-13. Major investments under development include a National Marine Wind Centre at NaREC and a Low Carbon Vehicles Demonstrator.

While the region clearly faces challenges from current economic conditions such facilities and projects are enabling universities, businesses and other partners to work together in new ways to bring world leading innovations to the application stage, for markets as diverse as assistive technology for an ageing population, low carbon transport and industrial scale bioprocessing.

[www.onenortheast.co.uk](http://www.onenortheast.co.uk)



*The Printable Electronics Technology Centre (PETEC) – the national prototyping institute for the development and commercialisation of printed electronics*

**one**  
**NORTH EAST**

# SOUTH EAST REGIONAL DEVELOPMENT AGENCY (SEEDA)

SEEDA looks to the cross-cutting edge of business, science and technology to lead the economic and social development of the South East of England – the driving force of the UK's economy.

SEEDA has supported a programme of regional collaborative research and development worth around £10 million in priority areas for the South East, including intelligent transport systems, as part of the Technology Strategy Board led National Intelligent Transport Systems and Services Innovation Platforms.

A network of three Science and Innovation Campuses across the South East will enable collaboration between the highly competitive businesses and strong knowledge base, these are:

- The existing Harwell Science and Innovation Campus.



*Working for England's World Class Region*

- The Thames Gateway Institute for Sustainability launched in November 2008 with SEEDA investment of £7 million. This is a unique centre of research excellence with its entire focus on creating practical, commercial innovations to measurably reduce our environmental impact.
- A proposed campus building on the region's strengths in communication and security technologies.

SME engagement with the campuses will be supported, including through the provision of Innovation Vouchers for each campus.

SEEDA also promotes the skills needed for business, including investing £650,000 for the UK's largest digital planetarium at the Intech Interactive Science Centre in Winchester, opened in March 2008, to enthuse schoolchildren to study the STEM subjects needed by the region's businesses.

[www.seeda.co.uk](http://www.seeda.co.uk)

*Intech Planetarium, Intech Science Centre*



## SOUTH WEST RDA (SWRDA)

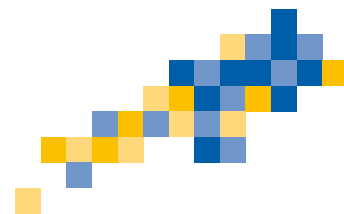
There are challenges that face the South West as a geographically varied region but this also leads to significant opportunities. The South West RDA has increased focus on renewable energy technologies that build on the wind, tidal and wave energy opportunities in the region. As well as investment in the £28 million Wave Hub (an off-shore electric 'socket', generating energy from wave and tidal power forming an international proving ground for energy technologies) and PRIMaRE (the £15 million Peninsula Research Institute for Marine Renewable Energy) the RDA has committed to a zero carbon corporate plan supporting the growth of world-class research in low carbon technology and services, reinforcing growth of the low-carbon business sector.

An initial investment of £1.4 million from the RDA enabled PRIMaRE to recruit new research teams over the summer, including new professorial appointments, bringing world-leading experts to the South West. Wave Hub is expected to create 1,800 jobs and inject £560 million into the UK economy over 25 years. Almost 1,000 of these jobs and £332 million would be generated in the South West.

The South West RDA has also supported the significant aerospace in the region, with over £3 million invested in projects aligned to the Technology Strategy Board.

Science City Bristol is building on strengths in advanced engineering, silicon design and creative technologies, and RDA investment has supported SPark, a £300 million science park and innovation centre.

[www.swrda.co.uk](http://www.swrda.co.uk)



**South West RDA**



*An Undersea Turbine, developed by Tidal Generation Ltd., that will generate energy from tidal power*

## YORKSHIRE FORWARD (YF)

Yorkshire Forward recognises the enduring importance of helping companies surmount barriers to innovation, creating a demand for knowledge and stimulating open innovation.

The Innovation Specialists' Service launches in early 2009; Innovation Vouchers support SMEs working with the knowledge base; Knowledge Transfer Partnerships will double; and Designing Demand supports companies adding value through design. This is all underpinned by the Yorkshire Science & Technology Network and annual Innovation Awards. Grants worth £43 million are available to all regional businesses investing in R&D.

Innovation networks for advanced materials, healthcare, low carbon futures and intelligent product formulation & design will catalyse collaboration and build on recent investments in innovation infrastructure. These include the Sheffield-Rotherham-based Advanced Manufacturing Research Centre; CAMTeC, developing applications for advanced composite materials; and the Factory of the Future, helping companies massively improve manufacturing productivity.

Other substantial YF co-investments include: the UK's only Logistics Institute in Hull, the Auto-Identification and Data Capture Centre supporting barcode, biometric and RFID technology nationally from Halifax; and the Advanced Digital Institute promoting emerging technology for electronic companies from Airedale. Major YF knowledge-base investments include The Centre for Low Carbon Futures coordinating and reinforcing capacity to tackle climate change and the EPSRC Integrated Knowledge Centre in Regenerative Therapies and Devices.

[www.yorkshire-forward.com](http://www.yorkshire-forward.com)



The Region's  
Development Agency



*AMRC researcher producing component by Shaped Metal Deposition process*

# THE NORTHERN WAY

The Northern Way adds value to the work on innovation of the three Northern RDAs. We work to support genuine cross regional priorities on areas that demand critical mass and a collaborate approach.

In the last 12 months we have:

- Produced a report on **Major Innovation Assets** highlighting the innovative places in the North of England such as AstraZeneca and the New and Renewable Energy Centre and their contribution to the UK economy.
- **Invested £4 million** in two research centres combining the strength of the eight research intensive universities in the North. The centres will develop cutting-edge technology in key areas –Molecular Engineering and Translational Regenerative Medicine.
- Worked collaboratively with DIUS and BERR on the **OECD Review of Innovation**, the first major review by the OECD on how to strengthen the innovative capacity of countries and regions.

- Established **four cross regional priorities** where we will pool resources to support their development: carbon capture and storage; offshore wind; printable electronics; and an innovation platform for the creative and digital sector. We are **working with the Technology Strategy Board** to align our activities in these areas.

Key future priority is investing in the **Northern Way Innovation Programme** and combining our research assets and commercial capabilities across our priority four areas.

[www.thenorthernway.co.uk](http://www.thenorthernway.co.uk)

## Moving Forward: The Northern Way

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