

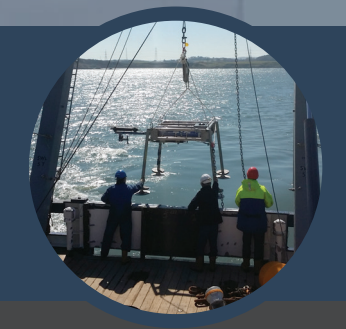
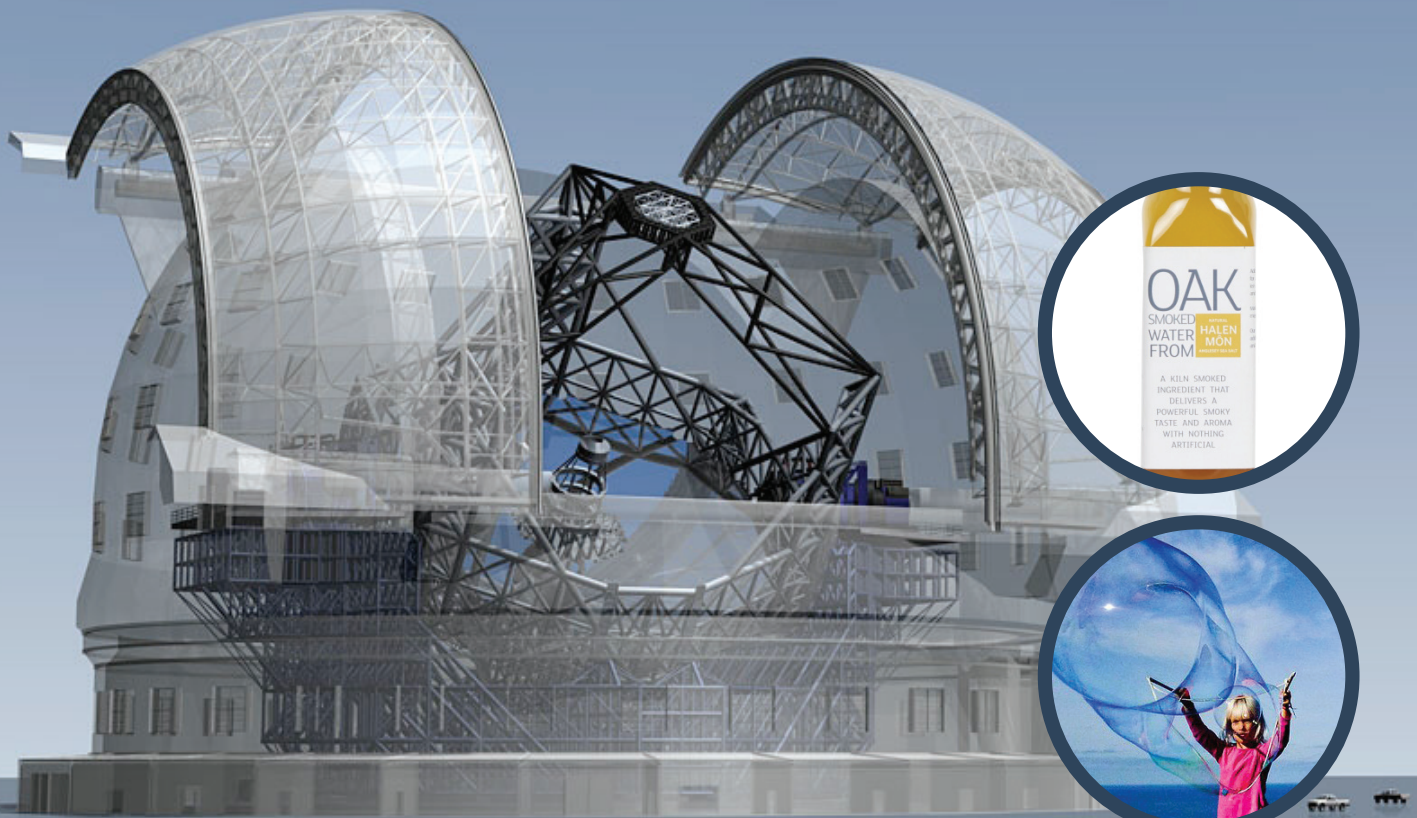
NORTH WALES & EUROPE

INVESTING IN A BRIGHTER FUTURE FOR NORTH WALES

ISSUE 5: AUGUST 2015

Produced by the North Wales Specialist European Team on behalf of the North Wales Economic Ambition Board.

REALISING TOMORROW'S AMBITIONS, TODAY



Region's Cutting Edge
North Wales fast becoming a hot-bed of world
leading research and development

Realising Innovation
Marked increase in innovation in the region's
businesses



THE **NORTH WALES ECONOMIC AMBITION BOARD** BRINGS TOGETHER THE REGION'S KEY STAKEHOLDERS IN THE PRIVATE AND PUBLIC SECTORS TO DRIVE ECONOMIC GROWTH ACROSS THE REGION.

Innovative Region – realising tomorrow's ambitions, today



North Wales has secured an investment of over £279m, including £154m from the European Structural Funds since 2007. Some of this investment has helped business to develop new and innovative products and boosted research capacity in the region.

Innovation and new technologies are driving competitiveness, jobs and sustainable growth in regions across the world. Councillor Dilwyn Roberts, Chair of the North Wales Economic Ambition Board outlines the opportunities in North Wales to build on the region's strengths and expertise to enhance its reputation as 'world-leading' in creativity and inventiveness.

"North Wales has access to many of the basic ingredients necessary to build a culture of continuous innovation in the region. It has creative people coupled with a range of industries and businesses with ideas to develop into innovative products, processes and services. The Ambition Board places great emphasis on the value of innovation in helping businesses to grow.

"Help is also at hand to turn ideas into reality. The region's higher and further education institutions offer not only technical help and access to specialist facilities and equipment but also a wealth of expert knowledge. We also have a talented pool of young people with natural enthusiasm for innovation, and entrepreneurship in our schools, colleges and universities.

"There are already fantastic facilities firmly established in the region. Glyndŵr University's OptIC Centre houses innovative and high-technology businesses in North East Wales.

In the North West, Tŷ Menai provides an outstanding environment for digital and technology based businesses to develop and collaborate.

The new £20 million Menai Science Park (M-SParc), promises to be a further catalyst for innovative high growth knowledge-based businesses and bring high paid and high skilled jobs to area. M-SParc has also been included in the Anglesey Enterprise Zone which, along with Deeside and Snowdonia, is one of three Enterprise Zones in North Wales.

In addition, the PONTIO Centre in Bangor, will have an 'innovation hub', dedicated to discovering new

technologies and supporting collaborative design approaches between university expertise and businesses in the region.

World-leaders in research

Researchers based at Glyndŵr and Bangor Universities have an enviable track record for innovative and ground-breaking research. The Universities work across a broad range of fields; from low carbon energy, ecology and hydrology to ICT and the digital economy and high precision optics and opto-electronic technologies. This research benefits industries and businesses and helps create high value businesses with high quality jobs.

For example, a group of scientists and engineers at OptIC Glyndŵr are playing a major role in developing mirror segments for the European Extremely Large Telescope (E-ELT) project, which is set to revolutionise optical astronomy – a real recognition of their capability to lead the world in this field.

Research to Reality

Innovation is not only the exploitation of a new idea, it is the application of new knowledge. Businesses across the region are already collaborating with other businesses, universities, research centres and public organisations. In so doing, they're not only developing their products and turning them into commercial operations, but also taking this work forward as efficiently as possible and boosting their competitiveness.

Encouraging and enabling innovation throughout the North Wales economy is key to our ability to compete and make an even greater impact on the global stage. European Structural Fund support has helped build the capacity for research and improved collaboration between individuals, business and the region's academic institutions increasing our ability to exploit new ideas and technologies now and in the future.





REGION'S CUTTING-EDGE

As a region, North Wales is competing at the highest level when it comes to building a strong and resilient business sector. To do so, it has been at the forefront of adopting the latest technology to stay ahead of the competition.

Collectively cutting edge projects such as SEACAMS, WISE 2, KESS, GEMS, LEAD, BEACON and High Performance Computing Wales have assisted 1390 companies, supported 316 R&D collaborations and helped in creating 341 new businesses in North Wales since 2007. A number of these projects have also received international recognition for their work by winning one of the European Union's prestigious RegioStars awards.



Pen Llyn's #Ecoamgueddfa scheme received support from the WISE network

REALISING INNOVATION

Innovation makes individuals more productive and businesses more competitive by introducing new thinking, methods and processes. We are entering into a new industrial age, characterised by constant innovation and accelerating change. The need to adapt quickly, to accommodate unexpected futures through agile behaviours is better suited to an economy dominated by SMEs.

North Wales is well suited to face this challenge head on and engender attitudes and behaviours that lead to greater innovation across the region.

THE HUMBLE DAFFODIL'S POTENT SECRET WITHIN

The national flower of Wales is not only pretty but also clever. It contains Galanthamine, known for its treatment of Alzheimer's disease. Kevin Wall, director of Anglesey-based Farmaceutical Innovations, wanted to establish the potential for using screwpress equipment to pre-treat daffodil biomass as part of a process to extract alkaloids. Kevin approached BEACON to develop a collaboration focussed primarily around the process optimization of daffodil bulbs.

BEACON was a collaboration between Bangor, Aberystwyth and Swansea Universities, backed with £10.6 million from the European Regional Development Fund.

During trials using the pilot-scale process equipment, researchers from BEACON worked with the company to identify suitable solutions to the current daffodil processing problems. As a result, the company are in a better position to correctly specify their equipment and technical specification when they next consider their procurement requirements. Ultimately the trials undertaken at BEACON have saved the business time and money by eliminating the high costs associated with major scientific development work.

www.beaconwales.org





TAKING THE HAZARD OUT OF A BLIZZARD

Around a decade ago anyone involved in outdoor activities, from mountaineers to expeditions in cold climates, took a polythene bivy bag or space blanket with them for emergency use. These, at best, provided an extra water and windproof layer. A new material designed to aid survival in extreme conditions has been invented by Blizzard Protection Systems Limited. The firm has grown from a cottage industry to become the world leader in its field with its product being used by the US, Australian, Finnish, German and Norwegian armed forces. This has led to increased turnover and employment at its headquarters in Bethesda.

Thanks to the Knowledge Economy Skills Scholarship (KESS) the company was able to work with a PHD student to undertake collaborative

research on how the highly innovative material directs escaping body heat back into the body, preventing or delaying the onset of hypothermia.

KESS was a pan-Wales higher level skills initiative led by Bangor University. Part funded by the Welsh Government's European Social Fund (ESF) convergence programme it offered a low entry cost for SMEs to gain access to expertise and helped a variety of businesses across North Wales develop new products.

www.higherskillswales.co.uk/kess





SMOKEY WATERS

From The Fat Duck to M&S gastro ready meals, Halen Môn – Anglesey Sea Salt Ltd’s Oak Smoked Water is doing a roaring trade. Heston Blumenthal can’t get enough of the stuff! Smoked in their smokers on site, using oak chipping, this unique water is added to soups and casseroles for a rich, smoky depth.

Halen Môn – Anglesey Sea Salt Ltd are a world renowned and much loved North Wales family owned business that approached the WISE Network for support in testing the new product’s stability. WISE 2, a collaboration between Bangor, Aberystwyth and Swansea Universities enabled businesses across the region to take full advantage of the growth in the green economy.

This oak smoked water was developed in collaboration with

research scientists and professional staff from the WISE 2 Project

Anglesey Sea Salt Ltd were able to make use of the University’s expertise and facilities in developing the product.

The support enabled the product to be tested to evaluate stability over a 6 week period at two different storage temperatures, 4°C (refrigeration) and 20°C (room temperature). The final results proved its stability and the water is now firmly established as a part of the company’s ever expanding line-up of sea-salts and sea-salt based products.



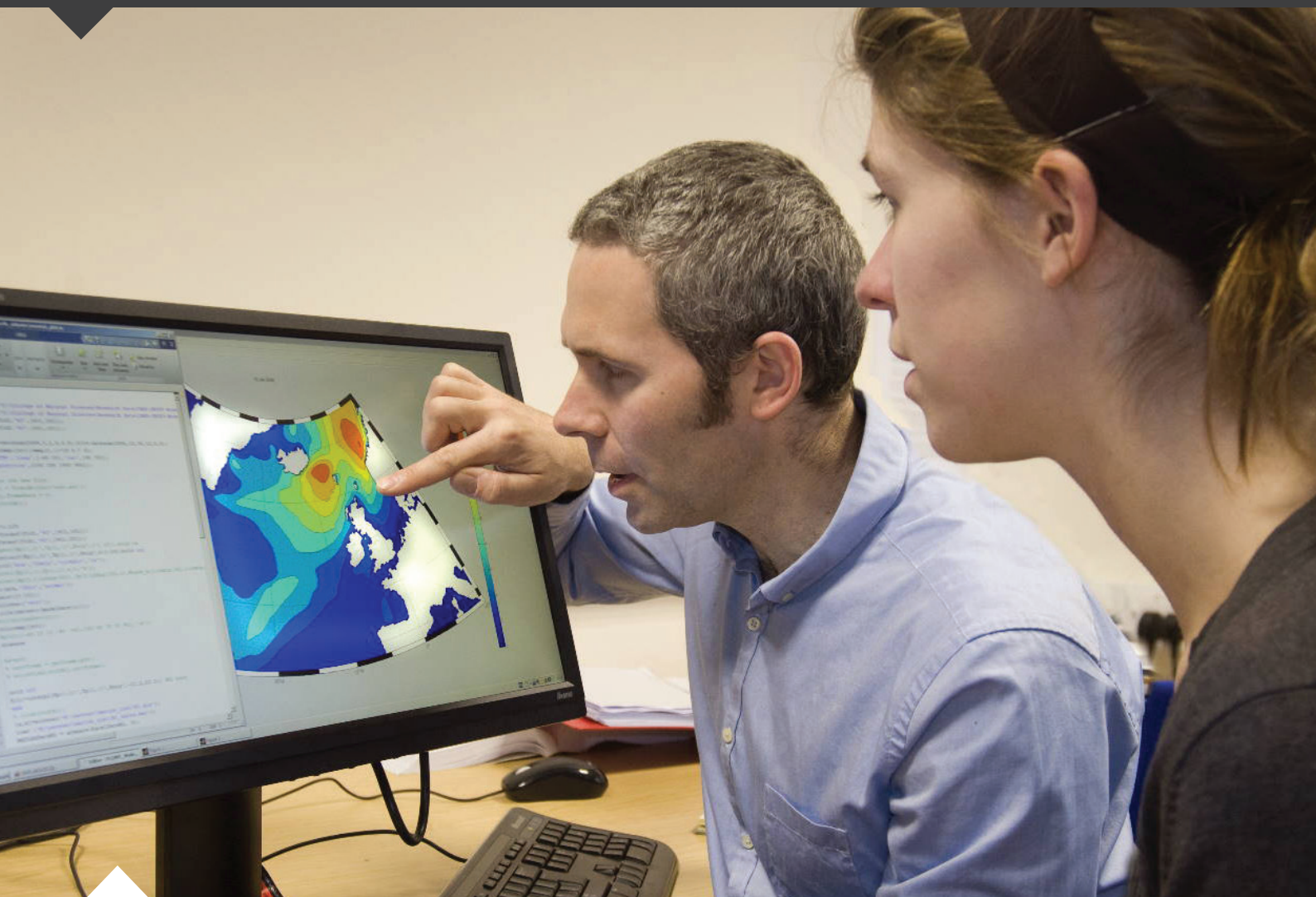
INNOVATION – IT’S AN ART AS WELL AS A SCIENCE!

Innovation and new technologies are driving competitiveness, jobs and sustainable growth in regions across the world; and with a vibrant business community, two prominent universities and dynamic further education institutions, North Wales is well placed to set the pace into the future.

Complementing the network of facilities which already exists across the region, Bangor University’s new £47million PONTIO Centre will bring together the arts and sciences in a unique way providing a further stimulus to innovation.

As well as a range of facilities including Hwb a dedicated state of the art innovation facility, PONTIO will bring together research expertise, individuals and businesses to collaborate and develop new products and processes, turning them into commercial reality.

www.pontio.co.uk



HARNESSING THE SUPER POWER OF THE OCEANS

Previously untapped opportunities to generate low carbon energy in the waters around the Welsh coast is now a reality thanks to collaborative research undertaken by researchers from SEACAMS - Bangor University's School of Ocean Sciences' new £24 million centre in Menai Bridge, Anglesey - and the High Performance Computing (HPC) Wales project.

Using HPC Wales to access the national supercomputing network, researchers are able to model the environmental impact of placing marine renewable-energy devices around the Welsh coast

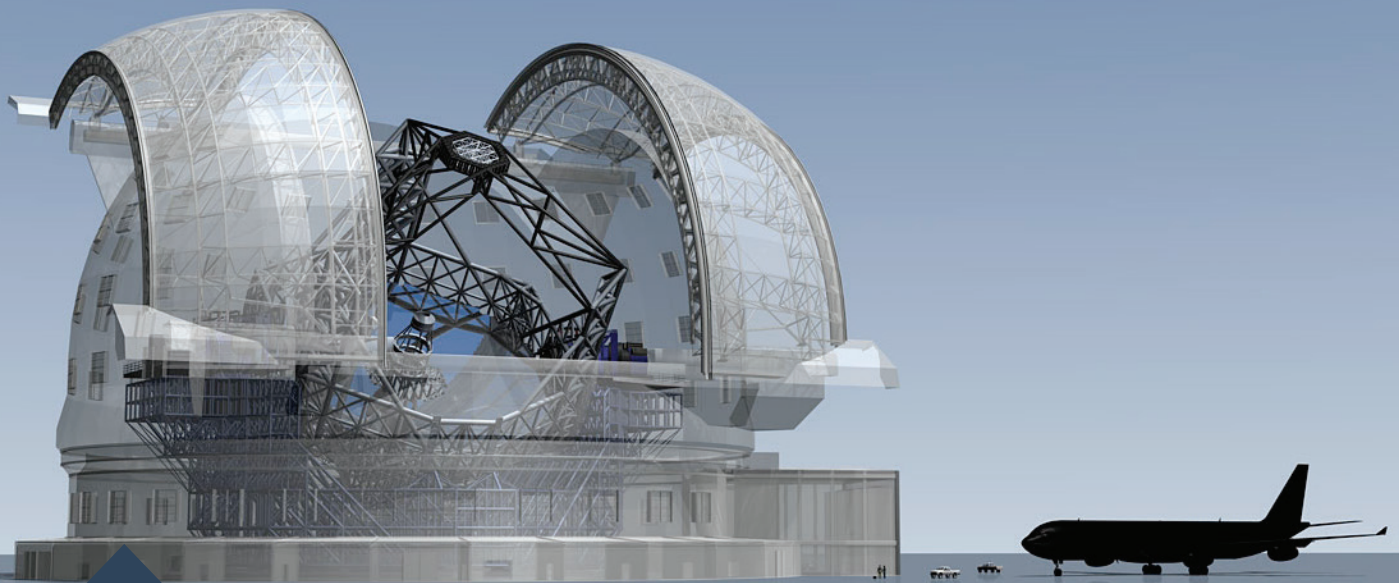
According to Dr Simon Neill of the School of Ocean Sciences, "Wales has some of the best tidal energy resources in the world. By helping to develop these

locations we are now bringing developers into Wales and enhancing the Welsh renewable energy sector."

The low carbon energy sector in Wales, employs 40,000 people and contributes £3.2 billion to the economy each year.

www.hpcwales.co.uk





PRECISION WHICH IS OUT OF THIS WORLD

Welsh academics are working closer than ever with the world of business to develop cutting edge technology thanks to the European Structural Fund supported Welsh Government Academic Expertise for Business (A4B) programme.

The aim of the overall programme is to promote a high value-added economy and to maximise the economic impact of academia and business through knowledge transfer and the creation of a stronger science, engineering and technology base with clear commercial potential.

Scientists and engineers at Glyndwr University's OpTIC Innovation and Research Centre have already benefitted. As Professor

Paul Rees explained, "As a result of the funding from A4B, we achieved a world first metrology system that puts Wales at the forefront to bid for producing up to 1,000 mirrors for the world's largest telescope – generating 25 jobs for Welsh manufacturing".

A4B has also enabled the team to engage with over 60 businesses and international research organisations, developing new processes for optics challenges in defence, space, energy and instrumentation.



Dr Dan Lamb from CSER



The ESO Project team with the prototype mirror



IMPACT OF INVESTMENT CAUGHT ON CAMERA

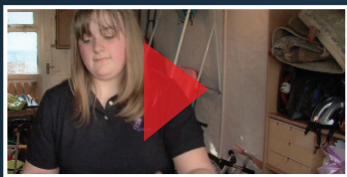
The North Wales Specialist European Team also published a series of Europe and North Wales videos which looked at the effects of 2007-13 European Structural Funding on the businesses, communities and people of North Wales.



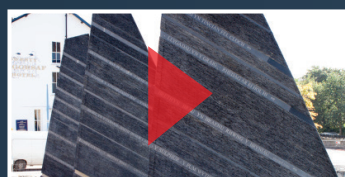
NEW WORK CONNECTIONS
www.bit.ly/nwconnect



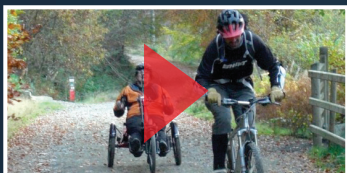
LOCAL INVESTMENT FUND
www.bit.ly/lifnwww



LLWYDDO'N LLEOL
www.bit.ly/llwyddolleol



PHYSICAL REGENERATION PROJECTS
www.bit.ly/PhysReg



SNOWDONIA CENTRE OF EXCELLENCE
www.bit.ly/fideorhag

This booklet was prepared on behalf of the North Wales Economic Ambition Board by the North Wales Specialist European Team which is based in the 6 North Wales Local Authorities. The Specialist European Team worked towards ensuring that the region received maximum benefit from the 2007 - 2013 European Structural Funds and provided a range of support to raise awareness and ensure its effective delivery. Specialist European Teams exist across Wales and in different sectors, from Local Authorities, Welsh Government and the Welsh Council for Voluntary Action.

www.tinyurl.com/EuropeNorthWales

